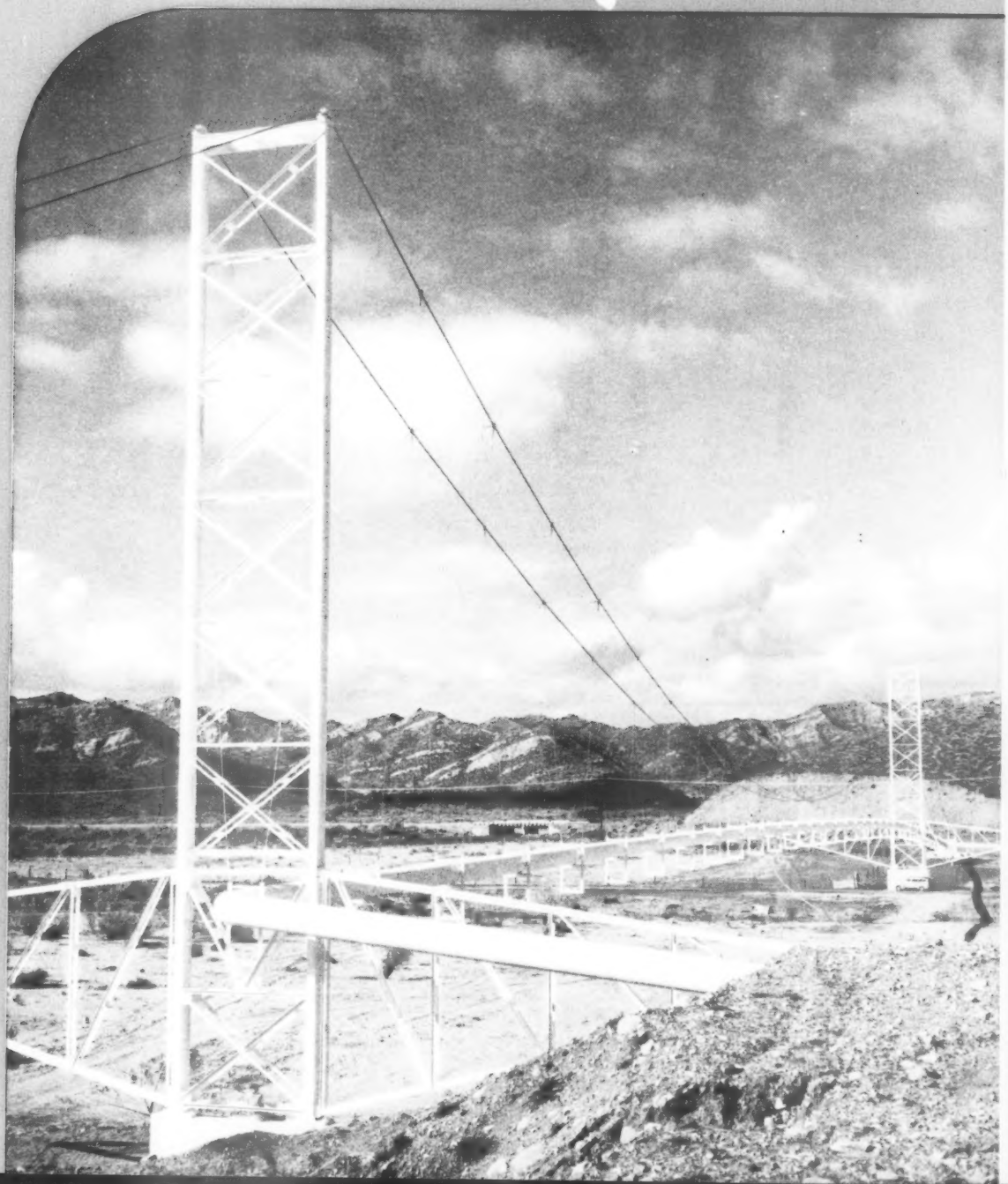
AMERICAN GAS ASSOCIATION

Monthly



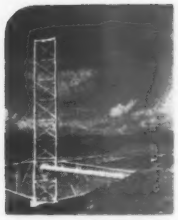
OCTOBER
1958

"Yes indeed, Julia Meade . . . we cook with GAS at the Park Plaza"

This is the Gourmet Room of the Park Plaza in St. Louis, famous for fine food and superb service. And like other great restaurants from coast to coast, the Park Plaza uses modern Gas equipment to prepare every meal served.

Such outstanding cuisine demands careful preparation. That's why the Park Plaza specified Gas equipment. Years of hotel experience has taught Harold Koplar, owner of the Park Plaza, that *only Gas* gives the exact temperature control required to prepare the fine food served in the Gourmet Room, as well as the rest of the hotel.

The compact, streamlined arrangement of the Park Plaza's modern Gas cooking equipment is typical of the kitchens in outstanding hotels, clubs, and restaurants everywhere. When you install a new kitchen or remodel or expand your present one, call your Gas Company Representative and discuss the economies and results modern Gas equipment provides. *American Gas Association.*



This pipeline over the "dry" Santa Clara River is property of Southern California Gas Co. Photo by Mel Jones

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THE 1959 Plan Book, with its eye-catching displays, its colorful streamlined format, its ad mats, etc. (see page 2), goes into the mail this month, and the General Promotional Planning Committee expects a greater participation than ever before in this industry-wide promotion. Streamlining the book was a major aim of the A. G. A. Promotion Bureau. . . . The tremendous improvement in gas industry safety was cited during the 10th annual Accident Safety Prevention Conference in Louisville, Ky. The extent of our improvement is told on pages 5-7. . . . You be the judge! This challenge is suggested in a campaign by The Peoples Gas Light and Coke Co. in its promotion and sale of the RCA Whirlpool gas refrigerator in Chicago. Details of this success story begin on page 8. . . . If we may borrow a term from the younger generation, William T. Smith is a man with a *cool* job. He is chief of the refrigeration and air conditioning section, U. S. Air Force. His task: the responsibility for the maintenance and operation of $500 million worth of equipment. Mr. Smith (on pages 14-16) tells of the sales potential for the gas industry in this world-wide market, and outlines how his staff goes about this assignment.

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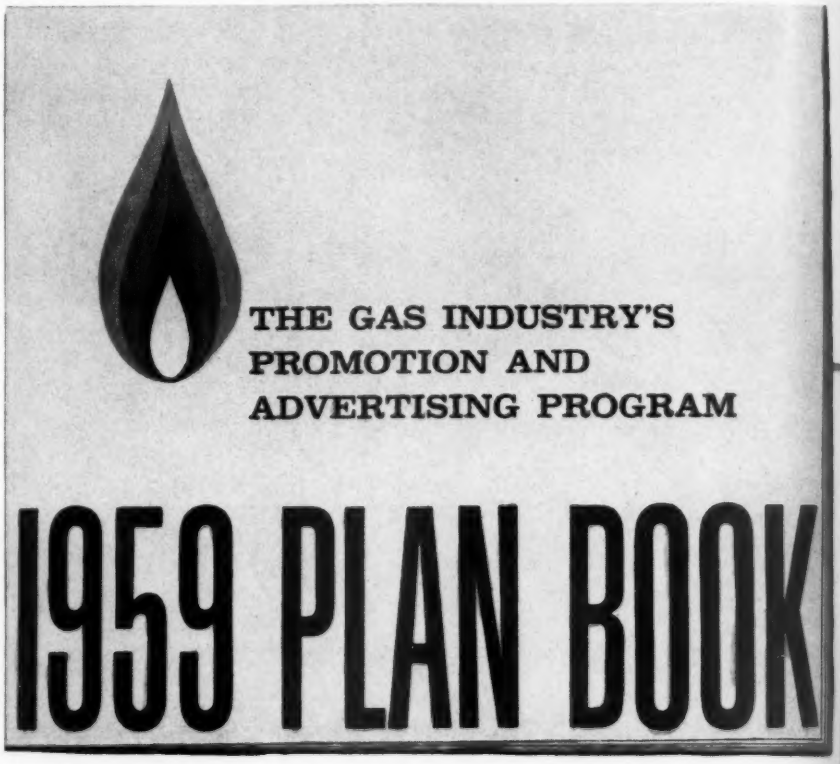


● *Less copy, colorful format, new displays in light and m*ure in

Streamlined 1959 Plan Book ready

A scrawny cat pops out of an empty garbage can and asks, "Where's the garbage?"

A homemaker turns to put clothes in her gas dryer, then swings around to put money in her piggy-bank.

Playful children crowd the top of a gas water heater, jumping into an old washtub filled with hot sudsy water.

These and other eye-catching scenes soon will be seen by customers on gas utility appliance floors and in dealer show rooms throughout the nation. They are part of the gas industry's promotion and advertising campaigns described in the 1959 *Plan Book*. The book outlines the eight big gas appliance campaigns headed by *Playhouse 90* and national magazine ads. The *Plan Book* is coordinated with colorful point of purchase displays, mats for local newspaper advertising, outdoor posters, and car and truck cards.

Member companies and manufacturers will receive their copy this month, and the General Promotional Planning Committee expects a greater participation than ever before

industry's promotion and advertising publication

on the part of utilities and manufacturers in this industry-wide promotion.

Streamlining the *Plan Book* was a major aim of the Promotion Bureau. By reducing the amount of copy, repeating the same format throughout, picturing the displays, ad mats, etc., reading has been made easier and quicker. For the first time, simple line sketches show the display as it would actually appear on the floor. Another innovation is a full page chart which shows each campaign at a glance and all the advertising and promotional aids (including availability dates) that will be devoted to that campaign.

The latest in motion and light animation is featured in the new displays. They are available, due to A. G. A.'s mass purchases, at a fraction of the cost that would be required to design and produce them locally.

Featured again this year is the year-around display service. This includes one each of seven displays: clothes dryer, water heater, spring range, house heating, Old Stove Round Up, holiday, and incinerator.

These displays are available as a package from the A. G. A. Promotion Bureau for use by gas companies on their floors and for distribution to dealers.

The **gas dryer** display shows a humorous animated figure of the homemaker putting clothes in her dryer, and then swinging around to put money in her piggy-bank. The display stresses the savings resulting from the use of a gas dryer. Campaign timing is set for January through March and August through October.

The approach to 1958's "Whale of a lot of hot water" **gas water heater** campaign will be repeated in 1959. The new display shows the youngsters jumping from the heater into a tub of water. A wire mobile, activated by air motion, gives the effect of animation. Timing is set for January through March and August through October.

The **spring range** display will feature the slogan and seal of the Super Gas Range Program. At press time, these

elements had not been chosen, but they will be fully incorporated in all advertising and promotion. The seal will be set off in a handsome and modern shadow box with lights flashing behind it. Campaign timing is set for April and May.

The **gas house heating** display will be of paper sculpture —a type that has not been offered before in this series. The heads of three children in three-dimension are fashioned out of paper and nod back and forth in rhythm while they sleep. Timing is optional.

The **air conditioning** display features light motion and full color with a warm yellow light flashing "gas heats best in winter" and a cool green light that flashes "gas cools best in summer." Timing is optional.

The hungry cat in the **gas incinerator** display illustrates the fact that there will be no more garbage cans, once customers purchase the gas incinerator. Timing for this humorous display is optional.

The **gas refrigerator** display is being prepared by Whirlpool Corp. and will be available from them. The display is included in the *Plan Book* and features the Magic Ice-Maker.

The **Old Stove Round Up** continues to be one of the strongest merchandising vehicles in the gas industry. The 1959 display, like the Julia Meade spring range display this year, will feature the illuminated full-color transparency panels showing the distinctive features of gas ranges. A lovely brunette is shown relaxing while her gas range does the cooking.

No definite plans have been announced for the 1959 **Holiday** campaign, but another Hollywood personality of the calibre of Bing Crosby and Fred MacMurray and June Haver will be chosen for this promotion.

Prices and mailing addresses are detailed in the *Plan Book*.

Safety men slash accident rates

Safety workshop moderators for the conference's Wednesday morning session are introduced to the group

Though celebrations were in order, no cake was cut at the 10th anniversary A. G. A. Accident Prevention Conference, held in Louisville, Ky., Sept. 15-17.

Instead, some 165 gas industry executives and safety specialists devoted themselves to cutting the rates for accidental deaths, injuries and property losses, in three days of the hardest-working lecture and workshop sessions held to date.

Celebration was due, not so much for the 10th birthday of the conference, as for the remarkable record of success in accident prevention chalked up since the conferences were begun.

From a peak frequency rate in 1947 of 21.86 disabling injuries per million man-hours, the industry rate has been reduced each succeeding year, down to a new low for 1957 of 8.55. This represents a slash in disabling injuries of *approximately 61 per cent* in ten years! Over the same period, rates for the severity of accidents were cut *slightly more than 65 per cent.*

If proof were needed of the effectiveness of coordinated accident prevention effort, this record would provide it.

During the conference, many companies were honored for achievements outstanding even within this industry-wide pattern of progress. But the main conference business concerned remaining safety problems, attacked by speakers, panelists and workshop groups in a manner assuring continued future improvement in the saving of gas industry lives, time and property.

Though the conference officially opened on Tuesday, Sept. 16, the entire day on Monday was occupied by a meeting of the large Accident Prevention Committee, which elected new officers and heard reports from 13 subcommittees.

Marvin B. Travis, Northern Natural Gas Co., Omaha, Neb., was elected committee chairman for 1959, succeeding E. C. Baumann, Public Service Electric and Gas Co., Newark, N. J. Charles T. Cummings, Hope Natural Gas Co., Clarksburg, W. Va., was elected vice-chairman.

On Tuesday, the conference's major address was delivered by T. A. Schlink, chairman of the board, Central Illinois Light Co., Peoria, Ill. He spoke immediately following the opening of the conference by chairman Baumann, remarks by program chairman H. T. Jayne, welcome by G. R. Armstrong, president, Louisville Gas and Electric Co., and presentation of keys to the city by Mayor Hoblitzell of Louisville.

Mr. Schlink was an imperative choice

as keynoter for several reasons. Paramount was the impressive, head-and-shoulders leadership of his company in the accident prevention effort. Among other records racked up by Central Illinois Light are these: An accident frequency rate of "0.0" for 10 out of the last 25 years; in first place for 12 out of the last 25 years; the only company to win the industry's Safety Achievement Award for the last three years in a row.

As board chairman of his company, Mr. Schlink is an example of the fact that top management support is the most important ingredient in a successful safety program.

In describing Central Illinois' highly successful program, Mr. Schlink mentioned these factors as being significant:

A general order of the company makes safety the responsibility of every employee.

In addition to a permanent safety engineer, there is a central safety committee composed of all company executives and department heads as well as other desirable personnel.

Subcommittees are responsible for two essentials—education and engineering. Supervisors are responsible for enforcement—the third "big E" of safety.

Safety meetings are held weekly in each department. In addition, frequent unscheduled "tailgate" sessions are held as occasion arises.

In summarizing the indispensables of a successful program, Mr. Schlink stressed the importance of:

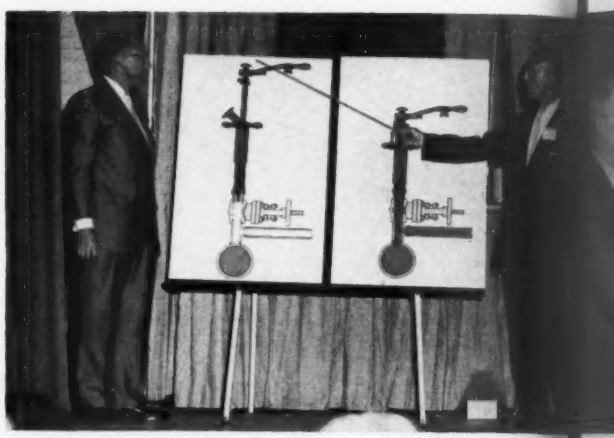
1. Full participation, by every employee from top management down.
2. A planned program rather than a spasmodic effort.
3. Continuous work to make the program effective. "Every employee must stay everlastingly at the job."

Tuesday afternoon's sessions were devoted to lectures and demonstrations by guest experts.

"Fire Power"—a dramatization of gasoline characteristics—was the subject of E. A. Agnew, of the Ethyl Corp. Striking demonstrations conveyed the why of gasoline fires and explosions, and the how of their prevention and control.

H. L. Baker, of the Mueller Co., Decatur, Ill., gave an illustrated talk on use of his company's specialized equipment for eliminating explosion hazards in tapping high pressure lines. By means of the tapping machines, a hazard

E. C. Baumann, chairman, addresses group at opening session



H. L. Baker (r.) and Bill Cessna of Mueller Co. give demonstration

T. A. Schlink (l.) presents safety achievement awards for 1957

Mr. Schlink (front, center) presents accident prevention awards

Wednesday afternoon workshop moderators addressed Delegates

G. M. Glidden (l.) demonstrates use of gas mask to John Bruner

J. A. Depew (l., front) presents motor vehicle fleet safety awards

A typical workshop was one on customer service operations

once among the chief accident sources is brought under control.

On Wednesday, practically the entire range of safety problems came under discussion and analysis, as conferees broke up into eight member workshop groups, each meeting for a half-day. Within these groups, members participated freely with questions and solutions on every conceivable subject from disciplinary action for accident repeaters to eye examinations for vehicle drivers. The problem of acquainting all conferees with findings of the various groups was handled by reconvening the whole to hear summary reports from each section.

Recipients of awards and certificates for performance in accident prevention were the following:

Sixty-five companies who qualified for the A. G. A. Accident Prevention Certificate for the year 1957, by reducing their accident frequency rate 25 per cent or more compared to the previous year.

Fifteen companies received plaques and two companies received perfect record certificates for safe driving under the National Safety Council Fleet Safety Contest.

Thirteen companies received the A. G. A. Safety Achievement Award for outstanding performance in their respective divisions.

During the year 1957, 44 companies also qualified for Safety Merit Awards, for completing a million man-hours without a disabling injury.

Natural Gas Companies

Northern Indiana Public Service Co.
Central Illinois Light Co.
Iowa Public Service Co.
Wisconsin Southern Gas Co., Inc.

Transmission Companies

Transcontinental Gas Pipe Line Corp.
Southern Natural Gas Co.
Michigan Gas Storage Co.
Wilcox Trend Gathering System, Inc.

Manufactured and Mixed Companies

Iroquois Gas Corp.
Citizens Gas & Coke Utility
The Hartford Gas Co.
Superior Water, Light & Power Co.

Liquefied Petroleum Gas Companies

Elizabeth & Suburban Gas Co.

The 10-year guarantee and the 90-day 'proof of superiority offer'—both tested tools —are used again in campaign

Refrigerator sales drive pays off for Peoples Gas

You be the judge!

This simple advice is suggested in the campaign by The Peoples Gas Light and Coke Co. in its promotion and sale of the newly introduced RCA Whirlpool gas refrigerator in Chicago.

Early in 1958 Peoples Gas completed plans for a renewal of active promotion of the gas refrigerator. The merits of gas refrigeration and the entry into the field of the prominent manufacturer of domestic appliances were broadcast widely by the Chicago utility. The campaign covered communications to the one million Peoples Gas customers, announcement ads and subsequent full-sized ads in the newspapers, billboards, brochures, attractive displays, contests and publicity material to newspapers. This program tied in with Whirlpool Corp.'s efforts.

It is well recognized, however, that regardless how complete the promotional and advertising material might be, it produces little if there is not an experienced, "sold-on-the-appliance" field sales staff to push door bells.

Ingredients convincing

These were the convincing ingredients which Peoples Gas used as a springboard in carrying out its 1958 sales promotional program on the new gas refrigerator.

"The recipe has paid off handsomely, thus far, and with a complete model line to be made available, the future looks even more promising," according to Bernard H. Wittmann, sales vice-president of Peoples Gas. "Sales of the new RCA Whirlpool gas refrigerator by our company have been most encouraging."

The 10-year guarantee and the "90-day proof of superiority offer"—both tried and tested tools employed in the marketing of the Servel refrigerator—were used again in 1958 to sell its successor.

Peoples Gas' first announcement covered the entire front page of its March, April, May, 1958 issues of the *Gazette*, a four-page gas bill insert sent to all customers. The announcement carried the theme of "Worth Waiting For . . ." and also the reminder that more than 155,000 Chicago families use the gas refrigerator.

During the month of May, three dif-

ferent 250-line announcement ads appeared in all of the Chicago metropolitan dailies.

Just before the arrival of the first model, the sales division scheduled for its staff of 100 door-to-door salesmen product demonstration meetings conducted by RCA Whirlpool representatives. The dealer section worked with the local distributor in helping him to line up dealers and also launch a sales making campaign on the gas refrigerator. All of the utility's plans were formulated to tie in with the manufacturer's schedule and target date.

As the first gas refrigerator came off the production line early in June, Peoples Gas heralded the event with a 7/8ths of a page advertisement in the full-sized metropolitan Chicago dailies and a double truck in the tabloid fourth Chicago daily. This ad which emphasized efficiency and modernity further helped condition the market.

In the June and July issues of the *Gazette* (circulation: over one million) the company announced the 90-day offer.

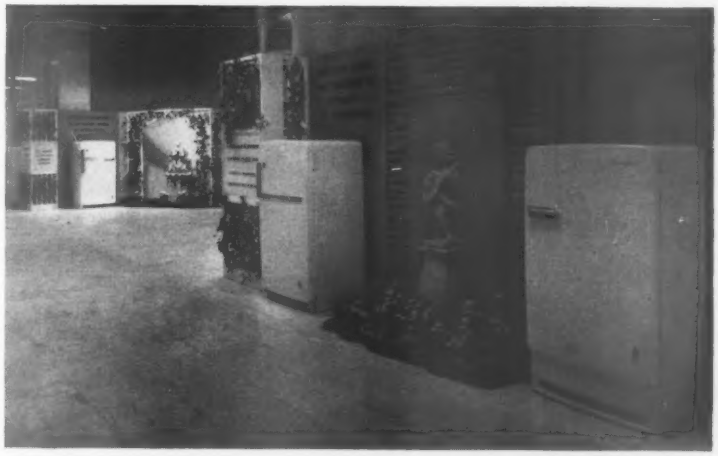
In order to assure as large an audience as possible and to effect a continuity of media, a radio and television spot announcement program was developed. Both ten and 20-second commercials were used.

Coverage is wide

The copy, audio and visual portions were tied directly to themes used in print media. The estimated number of home impressions made during the period of the television schedule ranged from 3.6 million to 5.3 million and for radio, approximately 6,888,398. Eighty billboards were used during the months of June and July. The copy themes were consecutively, "It's here! The silent new RCA Whirlpool gas refrigerator." "Ice-Magic."

Peoples Gas gave away nine refrigerators, one at its downtown salesroom and eight at each of its neighborhood offices. Eligible to participate in this drawing were customers who availed themselves of a product demonstration of the appliance. Recorded sales messages promoting gas refrigerator features were cut-in on background music and used as an additional device to attract customers to the merchandise displays in company

One display in the Peoples Gas office uses a billboard to laud RCA Whirlpool



A group of RCA Whirlpool gas refrigerators is set against a scenic background

One section of the company's showroom features a modern, functional display

NEW
THE SILENT
RCA Whirlpool
GAS
REFRIGERATORS
ARE HERE!
NO NOISE!
ICE-MAGIC
10 YEAR
GUARANTEED
JUST OFF THE LINE! See the exciting new RCA Whirlpool Gas refrigerators now! New beauty and convenience! With automatic defrost, glide-out and in-a-door shelves, Ice-Magic automatic ice-maker! Dependable—no moving parts, cooling system guaranteed 10 full years! Silent! Economical! Biggest refrigerator news in years! Available now at dealers or Peoples Gas. See them today!
THE PEOPLES GAS LIGHT AND COKE COMPANY

This newspaper advertisement was typical of the company's campaign

salesrooms.

During July and August, the company ran a 1,000-line ad in the metropolitan press announcing the 90-day offer and prominently displaying the automatic "Ice-Magic" feature.

The 90-day offer was designed to stimulate sales in the face of the higher price set for the gas refrigerator as compared with its electric counterpart.

"We wanted our customers to take and use the RCA Whirlpool for 90 days and compare it with their neighbor's," Mr. Wittmann explained. "The only cost involved to the customer was $10 as down payment. Removals have been relatively few. Then, too, we have a good follow up program to make sure that the customer is satisfied and at the same time it helps our salesmen to obtain additional prospects.

"Our sales experience has proved that in order to do a complete job of selling you need confident door-to-door salesmen—a most important segment of any sales organization.

"We anticipate that with the new line hitting the market early in 1959 we will do much better from now on," Mr. Wittmann said.

Meet your Association staff

Harold S. Walker, Jr.

When Ben Franklin wrote the line that goes "Early to bed and early to rise . . ." he might have had Harold S. Walker, Jr., in mind—at least the early to rise theme. "I usually stay up to catch the 1 a.m. news."

As a West Point cadet and later when leading field troops as an Army major, he was "up and at 'em" with the rest of the boys at dawn. Today, after 11 years as an Army officer and five as a civilian executive—three with the American Gas Association—he is still up at an early hour.

"It's the price I pay for living in the country," Mr. Walker, assistant to A. G. A.'s managing director, explains. Every morning (save Saturday and Sunday when he enjoys some glorious extra sleep) he manages to find his way to the New York Central Station where he catches the 6:54 a.m. Harlem Division train that brings him into Grand Central Station. Such is the life of a New York City commuter.

Country to Mr. Walker is "an old broken-down Dutch Colonial" on an acre of land in Katonah, N. Y.,—away up in Westchester County. He's a confirmed do-it-yourselfer "unless it's plumbing or electrical wiring." Then he calls for help. Current home projects include the installation of a new water system, and he gets a lot of help from his wife, Mary, and children, 14-year-old Harold III and 11-year-old Dianne.

At A. G. A., his rise to the top echelon has been rapid. Starting as secretary of the General Management Section in 1955, he advanced to secretary and convention manager in early 1957.

He has been assistant to the managing director since Feb. 1. His business philosophy: "I'm a gas industry man first, a trade association executive second."

As assistant to the managing director, he is responsible for the activities of the five A. G. A. Sections, and is in charge of administering the General Fund.

There's "one other task"—the clue is in the "to" in his title. As assistant to Chet Stackpole, he helps conduct the multitude of duties required of the office of the A. G. A. managing director.

Pittsburgh's natural gas companies sponsor bake-off at county fair; their exhibit is seen by 300,000

Five teens bake way to victory

The finalists in the Pittsburgh baking contest, sponsored by the natural gas companies in Pittsburgh, gather around Mrs. Pennsylvania at the Allegheny, Pa., county fair for the presentation of awards

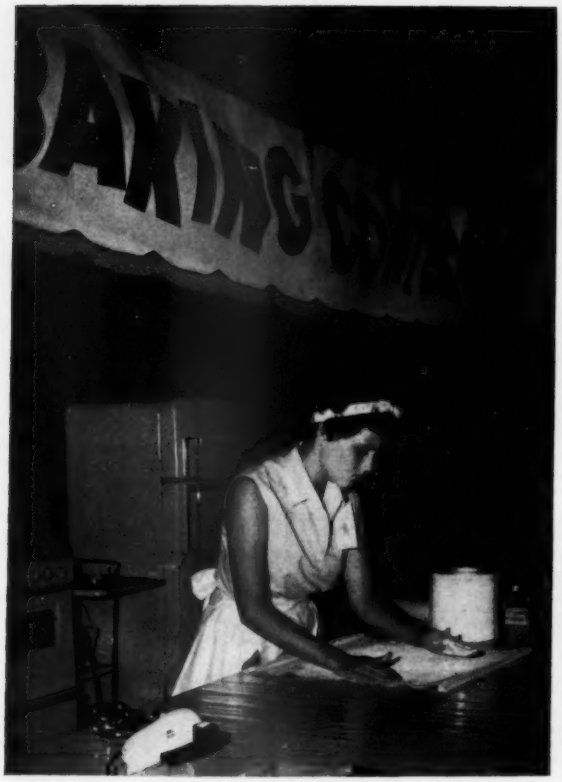
Five talented teen-age bakers won top prizes in a contest sponsored by the natural gas companies in Pittsburgh.

The baking competition, which was incorporated into the Allegheny, Pa., County Fair Sept. 1, was sponsored jointly by the Equitable Gas Co., The Manufacturers Light and Heat Co. and The Peoples Natural Gas Co. Final bake-offs were held in the Gas Industries Exhibit Tent at the fair.

The exhibit, which was outfitted by local cooperating gas appliance distributors, included two RCA Whirlpool refrigerators, six models of matchless gas ranges, and a storage-type water heater for the dishwashing area. Three work tables were set up in the tent in order to accommodate six contestants at a time.

The public was invited to watch the baking events in the auditorium section of the tent and to view the variety of appliances featured throughout the exhibit. During the five-day fair, which ran from Aug. 28 to Sept. 1, more than 300,000 visitors were received at the exhibit and acquainted with the advantages of living with gas.

Entry blanks were distributed last May to teen-agers in the Greater Pittsburgh area. During July and August, each of the three gas companies processed its own group of applications. This processing included an invitation to each contestant to visit the company's home service department for both an interview and an opportunity to bake the product described on the entry blank. At the end of this preliminary stage, each partici-



Maureen Cronin, a student from Midland, Pa., prepares the entry which won her first prize—a matchless gas range—in the pie section of the junior division of the bake-off finals

Nancy Pearson and Wallace Holznagel, first prize winners in the senior division, compare notes on their recipes. Each was presented with a $600 scholarship toward a college education

pant received a ballpoint pen and pencil set.

Each company then selected a group of entrants for the decisive competition at the fair. The contest was divided into three sections: intermediate division for 12 and 13-year-old cookie bakers, junior division for 14 to 16-year-old cake and pie bakers, and senior division for 17 and 18-year-old cake and pie bakers. Twenty girls and four boys, each of whom received "An Award of Excellence" certificate, competed in the fair's bake-offs.

In the senior division, each of the two first prize winners—Wallace Holznagel and Nancy Pearson—received a $600 college scholarship. James Gay, Jr., and Maureen Cronin, top cake and pie bakers in the junior division, each was awarded a matchless gas range. A $100 savings bond was presented to Mary Golembiewski, first prize winner in the intermediate section.

Other winners were: Joan Elliott, Emma Ruth O'Connor, Eileen Sauley, second prize, senior, portable radios; Mary Jo Bentz, Robert Pearce, Julia Solomon, Nancy Louise Braun, Darleen Yeager, Elaine Polosky, Tommy Doerzbacher, honorable mention, senior, $10 cash awards; Jon Holznagel (brother of the scholarship winner), Judy Mucci, Jan McGogney, Janice Johnson, second prize, junior, $10 cash awards; Linda Diehl, second prize, intermediate, $50 savings bond; Nancy Ann Battilana, third prize, intermediate, $25 savings bond; and Sharen McNamar, Jackie Anderson, Anne Gorham, honorable mention, intermediate.

Winners on air

The panel of judges included three home economists from local industries and schools. Prizes were presented by Mrs. Pennsylvania in ceremonies on the main stage of the fair.

WQED-TV, Pittsburgh, was located in a booth adjacent to that of the gas industry and, as a result, a number of televised spots were filled by interviews with people involved in the contest. Each of the 24 finalists appeared for three minutes, each of the competition's co-chairmen—Dorothy Farrell and Gilbert Smith—was interviewed for five minutes, and the five top winners and their culinary creations were featured on a 15-minute summary broadcast.

Products of all contestants were displayed during the fair and a public address system servicing the entire fair area broadcast frequent progress reports on the bake-offs.

The three participating gas companies reported that there was great public interest throughout the contest and that, while the bake-offs were taking place, many people visited the tent several times in order to watch the progress and learn who were the winners. For these reasons, both the time and money spent on the exhibit were considered, by the gas companies and the appliance distributors, sound investments in the commodity of public service.

The new Tidewater Natural Gas Co. building in Wilmington, N. C., displays a porcelain enamel and neon replica of the A. G. A.'s Blue Flame sign. The building's exterior is made of "Armor-Weave" aluminum

Tidewater in new building

Following the nationwide trend toward modernization of facilities by gas companies, the Tidewater Natural Gas Co., Wilmington, N. C., recently opened a new, streamlined office building in Wilmington.

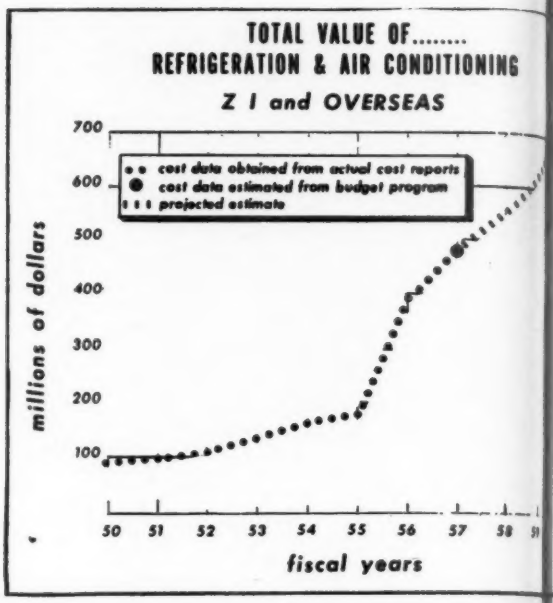
The exterior of the building is made of "Armor-Weave," a perforated, expanded aluminum sheet which serves both as a solar screen and as a decorative material. A porcelain enamel and neon sign, 12 feet high by five feet wide, is a reproduction of the American Gas Association's blue flame. Two gas street lamps attract attention to the building's main entrance.

One of the highlights of the new office facility is the Blue Flame Room, which was designed particularly for use by Tidewater's women customers, and where a modern demonstration kitchen is on display. Another feature of the building is its show room, which incorporates displays of gas appliances, the cashier's counter and the customer service area into one section.

Tidewater's model kitchen features RCA Whirlpool combination washer-dryer, Celoric built-in oven, Hedges water heater, and RCA Whirlpool gas refrigerator

Tidewater's showroom includes appliance displays, cashier's counter, customer service room, and the Arkla-Servel air conditioners which serve the building

Air Force has a cool $500 million in refrigeration



Mr. Smith: The Air Force is a ready-made market for gas

By WILLIAM T. SMITH
Chief, Refrigeration and Air Conditioning Section United States Air Force Washington, D. C.

How would you like to be responsible for the maintenance and operation of $500 million worth of refrigeration and air conditioning equipment? Equipment consisting of small domestic refrigerators, water coolers, reach-in and walk-in refrigerators and literally thousands of small, medium and large size air conditioning systems as well as gigantic air conditioning and testing systems reaching 8,000 to 10,000 horsepower!

This assignment becomes even greater when your maintenance personnel speak every known language and when your plants are located throughout the world . . . in the Arctic, in the tropics, in the desert, in the rain forest and on small islands almost inaccessible in the middle of an ocean.

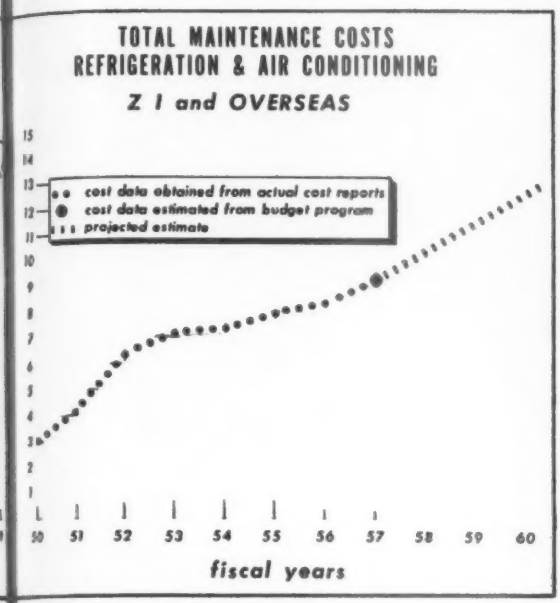
A problem? I'll say it is. And there are far more problems than hinted here, but this will give you an idea of the magnitude and scope of the maintenance and operation of refrigeration and air conditioning in the Air Force, world-wide.

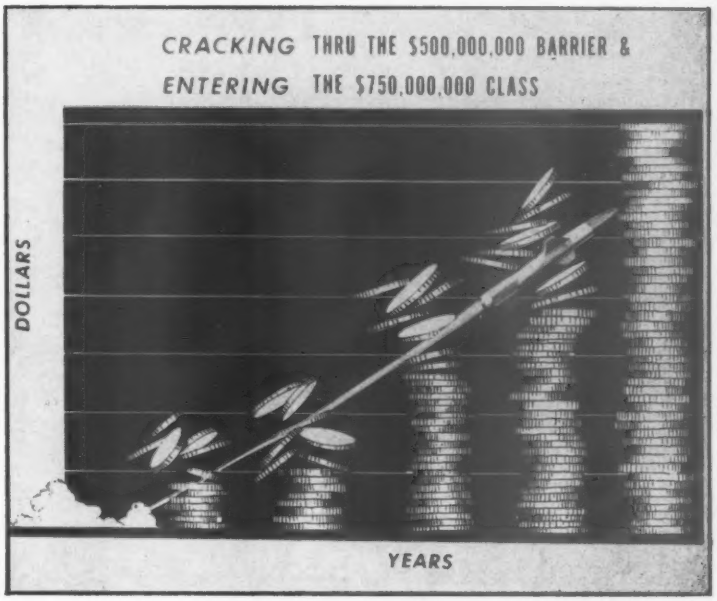
To sum it up, our job is the maintenance of a half billion dollars worth of refrigeration equipment. A few of our tasks are these:

1. The procurement of refrigeration equipment.
2. Theater air conditioning.
3. Dehumidifying systems and their application.
4. Technical applications for air conditioning.
5. Manuals and design criteria.
6. Cold storages.
7. Standardization of installations.
8. Preventive maintenance.
9. Freon usage and its relation to good maintenance.
10. Cost accounting.
11. The maintenance of refrigeration equipment.
12. Hiring competent refrigeration maintenance personnel.
13. Planning and conducting a refrigeration mechanics' and engineers' training program.
14. Holding conferences, and many other tasks too numerous to mention.

How does all this affect the gas industry? Simply this, Sir—there's a world-wide ready-made market just begging to be sold. It's there for the asking. Your sales people are invited to call on our bases all over the nation, in fact, all over the world. My advice to you: Get in there and pitch!

The Air Force recognizes the global importance of refrigeration and air conditioning. In many ways, it's more es-





sential to military operations than to the civilian economy. Every day, in every part of the world, airplanes by the thousands are landing on remote air fields. The first question asked by the newly arrived pilot and crew is "Where do we eat?" Wherever we have men, we must have food. And this is food that must be kept fresh for indefinite periods by refrigeration. Only refrigeration can do this vital job.

The perishable food protected by our refrigeration facilities will approach $200 million a year. That's a lot of food, enough to feed a city the size of our nation's capital. It's a staggering thought to consider the amount of refrigeration facilities required to protect our food, yet the preservation of food is only one way refrigeration serves to protect our personnel and materials.

For example, the air conditioning of synthetic trainers (descendants of the famed "Link" trainer) alone will represent some 12,000 to 15,000 tons, and this is only one of the more than 300 applications found on military installations.

Some of our larger bases have more refrigeration and air conditioning than a small city, and many air conditioning systems and low temperatures test facilities will whet your imagination.

The Climatic Hangar at Eglin Air Force Base with its 8,000 horsepower motor driven centrifugals has caught the public fancy. We have another base with 8,000 horsepower turbine driven centrifugals, and some of our more recent installations will compete with these for the honor of being the largest in the Air Force. Meanwhile, thousands of additional installations of all types and sizes are being built.

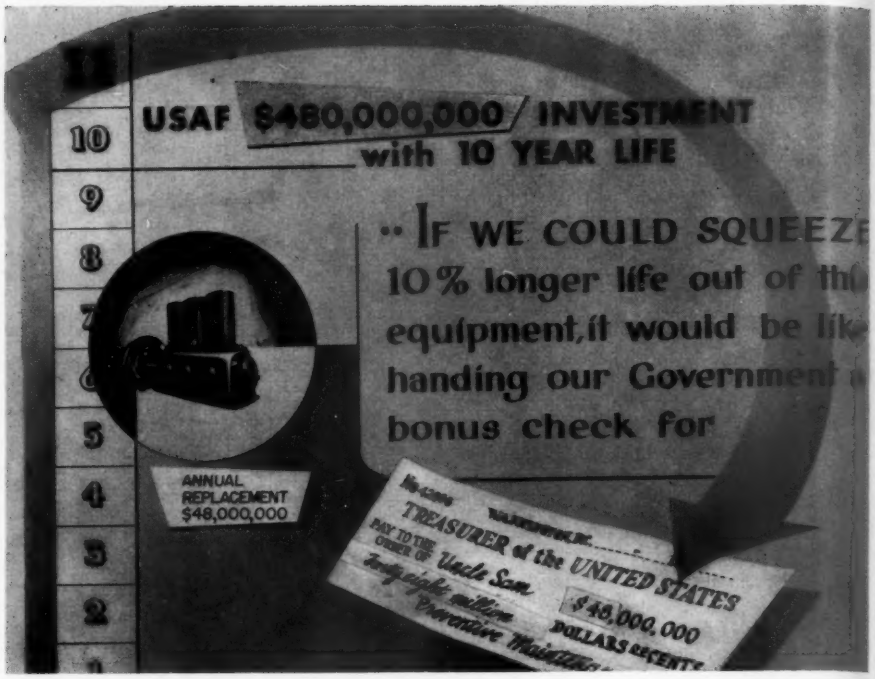
When the Air Force became a separate service it could boast nearly $40 million worth of refrigeration and air conditioning equipment. By 1952 we had an investment of some $100 million and by 1956 we had exceeded the $200 million mark. By 1960, if we continue our present rate of expansion, we will have cracked through the $500 million barrier and will be steering toward the $750 million class.

Can you imagine what $750 million worth of refrigeration and air conditioning equipment actually is? According to the Air Conditioning and Refrigeration Institute, this represents more than the entire production of the industry for the year 1949.

We are encouraging the installation of large central station systems as an over-all policy. In the years ahead you may see a whole flock of buildings grouped around one central cooling plant. This policy has materially reduced the total number of refrigeration units on a base which, in turn, has reduced our maintenance problems. This is especially important for remote bases where the problem of maintenance personnel is acute.

What about maintenance costs? Starting with something less than $3 million per year in 1950, we have built up to approximately $8.5 million for 1956 and, based upon our current rate of increase, we are headed towards an expenditure of almost $15 million to maintain our refrigeration and air conditioning equipment by 1960.

Although we may be spending $15 million yearly on maintenance, this work in the long run is expected to actually save Uncle Sam a sizeable sum. For example, suppose we were able to squeeze one more year of life from our equipment; based on present evaluation,



This chart shows how preventive maintenance saves thousands of dollars for Uncle Sam

this would be like handing the government a check for $50 million!

Refrigeration world-wide is a two-fold problem with the Air Force: first, to the plant properly designed and installed and second to maintain the plant so that the greatest benefit is derived from our investment. The latter is of greater importance than is generally realized. One of the greatest faults of design engineers is the lack of a thorough knowledge of how the plant is to be maintained.

Try as we may to impress design and installation personnel with the importance of maintenance, there seems to be a feeling among these people that getting an acceptance on the installation is the main objective. How the plant is to be maintained—or if it can be maintained—doesn't seem to be given very much, if any, consideration.

A dead refrigeration plant may seriously jeopardize the proper functioning of an important Air Force activity. So we want our maintenance personnel to fix little troubles before they become big troubles. We call this preventive maintenance.

To make preventive maintenance work, it is essential that we first build a strong, capable and efficient organization of men well fitted for their respective duties.

The Air Force refrigeration engineer and refrigeration mechanic training programs are the natural outgrowth of such thinking. By teaching these men the latest techniques for the proper design, maintenance and operation of refrigeration plants and systems, the quality of these plants as well as their maintenance and operation can be expected to improve.

Program is difficult

Throughout the training program we have stressed the importance of maintaining and operating our refrigeration and air conditioning facilities so that the desired temperature and humidity will be maintained. Two factors have made this phase of our educational program difficult. First is the strong advertising of air conditioning equipment that tends to lead our people to believe that the control of humidity is something that is built into every air conditioning unit, and second is the general practice of calculating air conditioning loads on a full load basis only. Both of these factors result in the same thing; an air conditioning plant without adequate control of humidity.

We have been studying the climates all over the world in order that we might know where we must consider the installation of air conditioning systems and where we must look for trouble in operating the plants now installed. Corrosion of metals starts at about 65 per cent relative humidity and mildew begins in the middle 70's. Thus, it became necessary that we develop a means of analyzing world climates so that we might determine where high humidities predominate.

These studies resulted in a very simple formula: Using 67°F WB as the datum point we record the total number of hours that the wet bulb temperature equals or exceeds 67°F during the six warmest months. This formula determines where the high humidities predominate and helps us decide where air conditioning is needed to protect material.

"Refrigeration World-Wide" is a rather complex subject encompassing many factors but it can be reduced to two basic elements: men and methods. The man must be trained in the use of the methods and our methods must be modern and designed to assist the men in the most effective manner.

The horizontal folder used on the customer service trucks of Southern Counties Gas Co. contains service forms. The vertical holder contains the A. G. A. Service Manual, Southern Counties' Service Code Book and Handbook and other service material

Gas Appliance Service Manual has new look

In conjunction with the publication of the September Supplement to the *Gas Appliance Service Manual,* two new sets of covers for use with the present manual are now being issued. The manual, first released four years ago, is a project of the Joint Committee (American Gas Association-Gas Appliance Manufacturers Association) on Gas Appliance Service Manuals.

The new covers have been produced because the present manual, through the addition of numerous supplements, has become too bulky for use as one volume. The extra covers will permit the division of the manual into three compact reference sections, including clothes dryers, ranges, and water heaters and incinerators. New tables of contents have also been published, so that each section can have its own index.

Manuals and subscriptions for supplements can be obtained from the A. G. A. Utilization Bureau. A descriptive folder with a price schedule and order form is also available from A. G. A.

A single manual costs $3.75. In lots of more than 100, the price of the manual is $2.75. The same quantity prices apply to a subscription for three years of supplement service. This service includes nine issues from September 1957 to May 1960. Each new subscriber receives both past and future supplements. The manual will still be sold as one volume, but the new covers will be issued with each September 1958 Supplement.

When the manual was published in 1954, it was expected that original pages would be removed to allow space for supplementary material. It has been found advisable, however, to retain the original pages, since most of the information is still applicable today, and since guides to older equipment and controls are valuable to appliance servicemen. New servicemen are particularly dependent upon the manual's reference material on older machinery, because this material is often the only available source of information.

Since 1954, the 400-page manual has grown to 750 pages. This volume can now be divided into a 250-page section on clothes dryers, including service instructions covering 19 makes of dryers or their controls; a 250-page section on ranges, containing information on 32 makes of ranges or their controls; and a 250-page guide to 28 makes of water heaters and controls for water heaters and incinerators.

The *Gas Appliance Service Manual* is carried by many servicemen throughout the country. Dealers, plumbing and heating contractors, and gas company servicing departments, among others, have purchased more than 16,000 manuals since 1954. The second three-year series of supplements now has more than 12,000 subscribers. Two large western gas companies have even installed a manual holder in each truck, so that the guide will be readily accessible. Each holder is a small book case which fits under the instrument panel in the truck.

The supplement service of the manual has proved invaluable in keeping service information up to date. In order to publish new data as soon as possible, the A. G. A. Laboratories immediately inform the Utilization Bureau each time a new control has met listing requirements. The bureau then quickly secures

When installed under the right-hand side of the dash panel, the horizontal folder of the manual carries company forms and the vertical contains the A. G. A. Gas Appliance Service Manual and other necessary service literature

information on the control from the manufacturer in time for publication in the next supplement. In this way, the new control and the information on its servicing reach the servicemen at about the same time.

In another development, the manuals committee has announced that a *Gas Heating Controls Service Manual* will be available in 1959. This new guide will include servicing information on each control used in gas heating equipment, a brief description and photograph of each make and model in general use, a statement on whether or not each control should be disassembled for adjustment and cleaning, instructions covering repairs and parts replacements, and cross-section drawings of various controls.

This manual, which will be a loose leaf book with a ring binder and hard cover, will also be kept up to date with supplements. The book will be eight and one-half inches by 11 inches, instead of five inches by eight inches, as is the present appliance manual. The larger page will provide twice as much information as does the smaller page and, as a result, the manual will not become too bulky as supplements are added. This larger size is the one generally used by control manufacturers for their own servicing instructions.

The manuals committee aniticipates both continued widespread use of the present manual and a large subscription to the new guide when it is published, because it has been found through experience that adequate servicing is one of the most important contributing factors to the expansion of the gas industry.

Southern California, Southern Counties to supply gas for Southland

SOUTHERN CALIFORNIA Gas Co. and Southern Counties Gas Co. have announced they are entering into a long-term contract to purchase 550,000,000 cubic feet of out-of-state gas per day in order to meet rising energy needs of the Southland.

The contract, for a minimum of 20 years, was signed with El Paso Natural Gas Co. Deliveries will start Jan. 1, 1960, and will be increased in stages until the entire amount is reached on Jan. 1, 1964.

El Paso Natural will make up deliveries by purchase of (1) 200,000,000 cubic feet daily from Colorado Interstate Gas Co.; (2) 200,000,000 cubic feet from Pacific Northwest Pipeline Corp.; and (3) 150,000,000 cubic feet of Canadian gas, covered by a pending application before Canadian governmental authorities.

The new project is a modification of a plan announced earlier to bring 400,000,000 cubic feet of gas daily into this area from a point near Twin Falls, Idaho. Under the new agreement, quantities have been increased to 550,000,000 cubic feet a day, and the pipeline will now start at Rock Springs, Wyo.

The Colorado Interstate gas will originate in the Texas-Oklahoma Panhandle area. Pacific Northwest supplies will come chiefly from the Rocky Mountain area.

A series of 34-inch pipelines will be constructed to transport the new supplies of natural gas to the two Southland companies.

Colorado Interstate will build 140 miles of line from Rock Springs to a point near Provo, Utah. From there, El Paso Natural will lay approximately 400 miles of line to a point on the California-Nevada border southwest of Las Vegas. Southern California and Southern Counties will construct necessary facilities from there to the Los Angeles basin. All of these pipeline projects are subject to approval by governmental agencies.

Pacific Lighting Gas Supply Co., the transmission-storage affiliate of Southern California and Southern Counties, recently announced that it will build a pipeline from the California-Arizona border to bring in an additional 300,000,000 cubic feet of gas daily. This supply will be provided by Transwestern Pipeline Co., Houston, Texas.

Municipal debt financing is a highly specialized field

AT least a dozen financial firms do a high percentage of business in the field of municipal debt financing. And a large part of that business concerns gas companies.

A survey of the debt financing of municipally-owned utilities with straight gas operations or with gas and other utility services from 1935 through 1956 shows:

1. A total of 234 financial houses, banks and public agencies assisted in this financing. (Two public agencies involved during that period—Public Works Administration and Reconstruction Finance Corporation—are no longer in operation.)

2. A total of $421.1 million was floated by municipal utilities through private channels.

3. Ten financial institutions either purchased or underwrote $264.4 million—or 59 per cent—of the total.

4. The 15 leading companies involved accounted for two-thirds of the total placements of municipal issues.

The total of $421.1 million raised through private investment channels for municipal utilities was used for construction or development of gas systems.

The 15 leading financial houses and banks placed 60 per cent of the $251.6 million for construction and operation of gas systems and 67 per cent of the monies used for gas and other utility service.

The total loaned by the now defunct public agencies was $21.6 million, of which $21.3 million—almost 99 per cent—was distributed for straight gas operation.

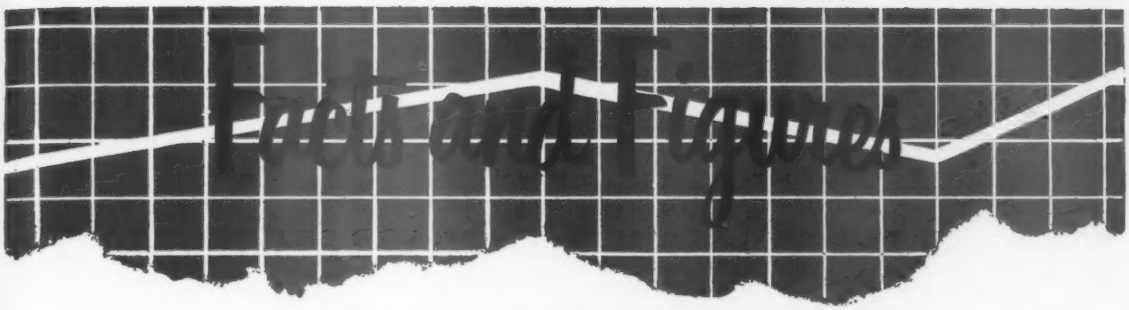
What of costs of debt issues by municipal utilities?

The weighted average cost has been 2.83 per cent, while the cost borne by private utilities and pipeline companies issuing bonds from 1935 through 1956 was 3.34 per cent.

On the average it cost municipal utilities 15.3 per cent less for debt money than the average private company would have to pay.

However, if debt issues of five major municipal utilities, all in operation for long periods of time, were removed from the totals, the cost to the remaining municipals would rise to 3.21 per cent—only 3.9 per cent less than the cost to private companies.

If the tax saving feature of municipal bonds were not present, investors on the whole would find debt issues of private companies more attractive.



Prepared by A. G. A. Bureau of Statistics

Gas utility and pipeline construction expenditures during the second quarter of 1958 were $402 million, down 12.2 per cent from a year ago but nevertheless 41.5 per cent higher than the first quarter of this year. This was more than the expected seasonal gain. Preliminary estimates of construction expenditures in the third and fourth quarters of this year are $642 million and $540 million respectively. These represent gains of 7.7 and 7.6 per cent over comparable quarters in 1957.

Information on past and anticipated construction expenditures, by quarters of the year, are supplied regularly to the Securities and Exchange Commission by gas utilities and pipelines with securities in the hands of the public. Summaries of such data by SEC have been adjusted to provide an indication of quarterly construction expenditures by the entire gas industry.

Total operating revenues of the gas utility and pipeline industry amounted to $6,859 million for the 12 months ended June 30, 1958, an increase of $769 million or 12.6 per cent above the comparable period a year ago. Total operating expenses which represent 67.5 per cent of total operating revenues rose 13.3 per cent during this same period. Net income aided by a substantial gain in other income revenues increased 17.5 per cent to a record $717 million. Taxes, both federal income and all other taxes, hit $869 million and represented almost 55 per cent of total net income before provision for taxes.

The level of housing starts in August was the best since January 1956, the U. S. Labor Department reported. There were 119,000 starts up 19 per cent over the August 1957 starts and over 7 per cent higher than July of this year. August housing starts on a seasonally adjusted annual basis climbed to 1,170,000 units, a gain of 10,000 from the July

(Continued on page 30)

SALES OF GAS AND ELECTRIC RESIDENTIAL APPLIANCES DURING AUGUST 1958

(WITH PER CENT CHANGES FROM THE CORRESPONDING PERIOD OF THE PRIOR YEAR)

	August		July		First 7 Months of 1958	
	Units	Per Cent Change	Units	Per Cent Change	Units	Per Cent Change
RANGES (including built-ins)						
Gas	156,000	—14.6	129,300	— 5.9	993,000	—10.4
Electric	n.a.	n.a.	98,500	+11.0	742,500	— 7.6
WATER HEATERS						
Gas	218,400	+ 3.9	221,400	+15.0	1,557,600	+ 2.1
Electric	n.a.	n.a.	79,000	+23.4	476,500	+ 4.3
GAS HEATING—Total	122,700	+12.5	91,800	+11.5	500,900	+ 7.3
Furnaces	88,600	+19.6	68,500	+20.0	387,800	+10.2
Boilers	14,600	+21.7	11,400	+14.0	52,300	+ 6.1
Conversion Burners	19,500	—15.2	11,900	—21.7	60,800	— 7.5
OIL-FIRED BURNER						
Installations	60,199	—16.1	40,024	—21.6	241,469	— 9.7
DRYERS						
Gas	n.a.	n.a.	20,960	+13.9	135,730	—16.2
Electric	n.a.	n.a.	54,560	+ 4.8	326,330	—14.2

Source: Gas Appliance Manufacturers Association, National Electrical Manufacturers Association, "Fuel Oil and Oil Heat," and American Home Laundry Manufacturers' Association.

GAS SALES TO ULTIMATE CONSUMERS BY UTILITIES AND PIPELINES DURING JULY

(MILLIONS OF THERMS)

	1958	1957	Per Cent Change
Month of July			
All types of Gas	4,860.3	4,956.4	—1.9
Natural Gas	4,751.6	4,850.6	—2.0
Other Gases	108.7	105.8	2.7
Twelve Months Ending July 31			
All types of Gas	79,095.9	74,883.8	+5.6
Natural Gas	76,682.4	72,577.3	+5.7
Other Gases	2,413.5	2,306.5	+4.6
July Index of Monthly Utility Gas Sales (1947-49 = 100)	228.2	232.7	—1.9

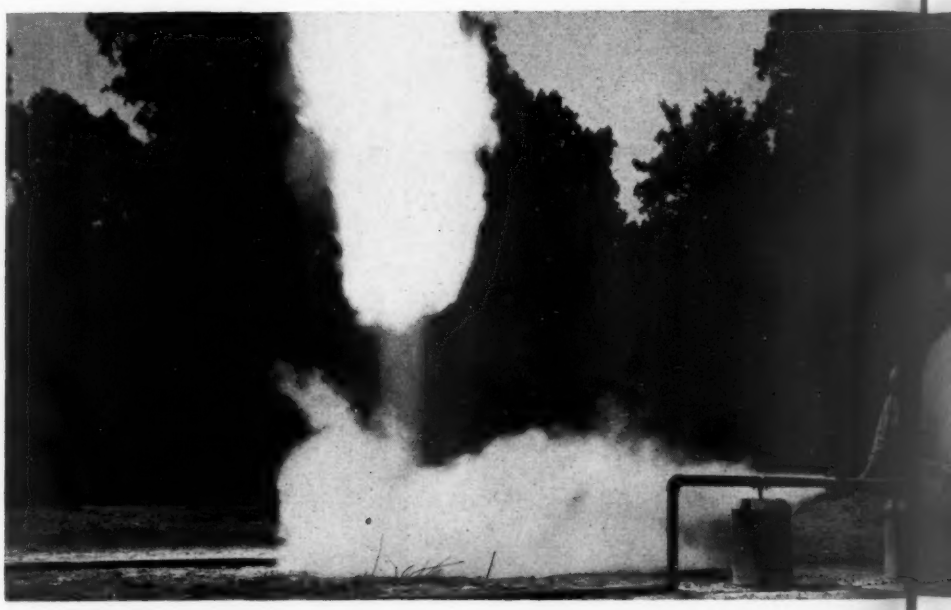
PERTINENT BUSINESS INDICATORS, JULY

(WITH PER CENT CHANGES FROM CORRESPONDING PERIOD OF THE PRIOR YEAR)

	July			June		
	1958	1957	Per Cent Change	1958	1957	Per Cent Change
Industrial activity (1947-49 = 100)	134	145	— 7.6	131	145	— 9.7
Consumer prices (1947-49 = 100)	123.9	120.8	+ 2.6	123.7	120.2	+ 2.9
Housing starts, Non-farm (thousands)	111.0	97.8	+13.5	115.0	99.9	+15.1
New private constr. expenditures ($ million)	3,114	3,124	— 0.3	2,979	3,060	— 2.6
Construction costs (1947-49 = 100)	168.7	163.0	+ 3.5	168.3	159.8	+ 5.3

The East Ohio Gas Co. sets gas ablaze under pressure to show firemen, safety experts how to extinguish flame

They deliberately ignite gas fires



An East Ohio Gas Co. employee uses a dry chemical to extinguish a gas fire within seconds. The fire was caused by a break in the gas line

Men from The East Ohio Gas Co. are setting gas and oil fires as part of a highly-successful fire prevention and fire control program.

Natural gas at 200 pounds pressure is deliberately ignited and then extinguished within seconds by professional firefighters and men using fire extinguishers for the first time.

Started three years ago, the two-hour fire control demonstrations have been given for company operating employees and several hundred northeastern Ohio firemen and industrial safety directors.

Don E. Buckley, director of safety for East Ohio and originator of the program, explains that the demonstrations were undertaken to build confidence in company personnel who might have occasion to deal with a gas or oil fire.

"We're not attempting to make expert firefighters out of these men," he says, "but we are trying to show them how easy it is to combat a high-pressure gas fire."

Mr. Buckley considers the undertaking highly successful. He recalls one compressor station oiler who approached him after a recent demonstration. "If I'd have seen a fire like that yesterday, I'd have taken off. Now I'd know how to handle it," he told Mr. Buckley.

John B. Quinn, a program instructor, notes that at every demonstration there are always several men who are reluctant to take their turn extinguishing a fire. "They keep shying to the back of the line. But, once they get in and put one out, they're always the ones back for a second try. That's what we're trying to achieve," he said.

The program is given in every company division once every two years. All company operating personnel and area firefighters are invited to attend. Site for the demonstrations is a plot of flat land adjacent to a company installation, usually a pressure or compressor station

where the necessary high gas pressures can be maintained.

The first part of the program is a half-hour lecture where the basic properties, classifications, causes and extinguishing agents of fire are outlined. While all types of extinguishers are demonstrated, major emphasis is placed on dry chemical and carbon dioxide models, the recommended types for oil and gas fires.

Following the lecture period, all the spectators are lined up, and after witnessing the instructors extinguish the sample fires, are given an opportunity to extinguish some themselves. Here, the entire emphasis is placed on the class B fire, the type put out by suffocation. Four types of class B fires are simulated with the "students" taking turns putting them out.

The piping for this phase of the program resembles a gigantic four-pronged pitchfork, with the main two-inch line running from the source of supply, the pitchfork handle. Running perpendicular to this handle is a two-inch manifold off of which run four parallel two-inch pipes 20 feet apart. A core-type valve is located at the junction of each of the four test-fire lines and the manifold. The valve of each test-fire line is manned as the line is used. As an additional safety precaution, a main safety valve is manned throughout the demonstration.

One of the test-fire lines has its terminus buried just below the earth's surface. When activated, it represents a fire caused by gas escaping from a buried pipeline.

Another type of fire is illustrated by placing a piece of steel over the open end of another test-fire line. The steel plate causes the flame to be impinged and spread. This represents a fire resulting from a leak in a pipe where the ditch it is in has not been filled.

Gas escaping from a fractured line or cracked fitting is simulated by an above-ground flange without a gasket. As the gas escapes and is ignited, the flames billow out in all directions.

Another pipe, pointing straight up, simulates the fire conditions which might result from a broken line. Average time the "students" require to extinguish these roaring blazes is three to five seconds, with some putting them out in one second.

In addition to the gas fires, an oil blaze is ignited for the benefit of company employees who work near oil—auto mechanics, compressor and pressure station personnel.

A 10 by 12 foot earthen dike is constructed and 150 gallons of oil poured in and set afire. Again using 30 pound dry chemical extinguishers, the "students" learn, by doing, that it requires only about eight seconds to extinguish this type of blaze.

Besides the confidence-building effect the program has on employees, it has been well received by fire department officials. Cleveland Fire Chief Elmer M. Cain, after attending one demonstration, lauded the company "for the fine work being done for the safety of the people of Cleveland."

On one occasion a group of volunteer firemen requested that a special demonstration be put on for them. It was, and the volunteers were invited to use their own equipment in addition to that supplied by East Ohio. The firemen tried water fog from their pumper and were successful in extinguishing a gas blaze.

"Now, if we ever have to call on them," Mr. Buckley points out, "they know that they can use their water fog equipment to put out a gas fire. We learned something, too. While water fog is not as good as dry chemical or CO_2 for a gas or oil fire, it is very effective."

East Ohio is very happy that its program has been so well received by firemen. All company installations are equipped to handle any class B fire. However, in the event of a class A fire, assistance would have to be summoned.

"Students" at The East Ohio Gas Co. fire control school quickly attack an oil blaze during a practice session conducted by the company

The energy comparisons given in the Zinder Report are valid for ordinary residential use

Salesmen! Use the Zinder Report

By I. E. ROWE
Director of Utilization
United Gas Corp.
Shreveport, La.

Although most gas industry men are familiar with the Zinder Report, it is apparent that the report has not been properly put to use by salesmen in their day-to-day activities.

The title of this report might cause someone not familiar with its contents to conclude that it can only be used for comparing utility services in multiple housing projects. This is not true. A multiple housing project is a group of single homes or living units and the energy comparisons given in the Zinder Report are perfectly valid for ordinary residential use.

Late in 1956, the U. S. Air Force decided to use electricity for all services including cooking, water heating, heating and air conditioning in a 1,535 unit housing project at the Little Rock Air Force Base. The basis for this decision by the Air Force has been questioned by many people. The subject became so controversial that a congressional investigation was ordered, and the following is a statement which appears in the record of the hearings by the investigating committee:

"The report (investigating committee report) contends that if the Air Force study had been conducted on a sound engineering basis, the Air Force could not have concluded that the selection of all-electric service was reasonable on a cost comparison basis. In connection with this, the report states that the Air Force used many assumptions and theories that are not in keeping with accepted engineering methods and practices. The report took particular exception to the heat loss calculations made by the Arkansas Power & Light Co., and alleged to have been accepted by the Air Force as a reasonable figure without careful review."

For many years prior to this Air Force decision, architects and engineers and the utility industry have needed an unbiased authentic source of information on the comparison of fuel and energy requirements for residential uses. After the Little Rock decision the gas industry decided that the preparation of such a report could not be delayed any longer regardless of the cost.

The Southern Gas Association, working with the American Gas Association, employed the nationally known firm, H. Zinder & Associates, to compile the report. The Zinder firm specializes in electric and gas utility consulting work, and it has offices in several large cities in the East, South and West. It is interesting to note that the two Zinder experts assigned to this project are *both licensed and registered professional electrical engineers.*

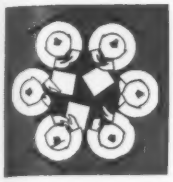
Almost a year was required to prepare the report. Many people who are familiar with the decision-making procedures in the Air Force believe that the Little Rock Air Force Base would not have gone all-electric if the Zinder Report had been available in 1956.

The following remarks are not to be construed as a condensation of the Zinder Report because it is far too complex to be reduced to a few simple calculations. However, salesmen engaged in the selling of gas service or appliances to individual customers can use the Zinder Report very effectively. This procedure is demonstrated in the following text.

The Zinder Report discusses the comparative operation and maintenance costs of competitive gas and electric equipment. It does not contain any information on original cost of appliances nor any appraisal of the operating features such as speed, dependability, ease of control and cleanliness. It is very important to understand that the purpose of the report is for making operating and maintenance cost comparisons.

The average consumption figures shown for gas and electricity represent

(Continued on page 39)



Industrial relations round-table

Prepared by
A. G. A. Personnel Committee

Edited by W. T. Simmons
Assistant Personnel Manager
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● **Changing people is a big job**—A story told in the *Acme Reporter* (official publication of the Association of Consulting Management Engineers) dramatizes the results of a typical unsuccessful human relations program:

A plant foreman attended all sessions in his company's human relations training program. A single thought embedded itself in his mind: You must treat your subordinates kindly, show you are interested in them as people. So the first chance he had, he tried out his new attitude toward the men on the line. He came in cheerfully at the start of the work day, greeted each person with a pleasant "good morning." This had not been his usual custom.

To a man, his crew looked at him suspiciously and began to ask each other: "What's that old so-and-so looking for now? Maybe the brass has been chewing him out and he's trying to get production up." Such a complete reversal of attitude needs additional conditioning on the part of the employees. At least they should have been alerted about the impending improvement in the foreman's attitude and why. Better communication and a sincere application may have helped take the suspicion out of the reaction to this changed attitude.

● **How good is your "right hand?"**—*Distribution Age* of November discusses this question. The article relates that the successful executive is one who can surround himself with good men. Nowhere is this ability more important than in the selection of your assistant—your "right-hand man." To rate the assistant you have selected—or will select—see if he merits a "yes" answer on each of these points:

(1) Does he have ability to get people to do things? An assistant who lacks this ability pushes the burden back on his superior's shoulders. (2) Does he have a mind of his own? "Yes men" may be flattering, but they are dangerous. (3) Does he have a quick grasp of detail? Much of an assistant's value is in his ability to relieve you of petty detail. (4) Is he loyal? An assistant whose entire attention is focused on his own interests is of little value. (5) Does he have control of his personal financial problems? If he is unable to cope with his own problems, it's unlikely that he can cope with yours.

● **Social role for executives**—"People expect business not only to satisfy their material wants and desires, but also to satisfy a whole range of psychological expectations." That's the opinion of Ralph J. Cordiner, General Electric Co.'s former president, speaking recently before the Executives Club of Chicago.

Most of these psychological desires are reasonable, added Mr. Cordiner. People in and out of the company, he pointed out, "look to a company to measure up to their ethical and social expectations, as represented by such things as its genuine interest in people and the community; its emphasis on human considerations; its really dedicated work in charity and other worthwhile causes; its obedience both in spirit and the letter of the law; its recognition that what other people think is important."

Mean motives, shallow minds, and double standards rightly deprive business of public support, he said. But even mistakes, if admitted and undone where possible "will be forgiven if the people are convinced that we are trying to follow, as Lincoln put it, 'the better angels of our nature.'"

● **Needed—confident health**—The operating executive who weighs the pros and cons of free physical exams for managers might consider the opinion of the Commerce and Industry Association of New York, Inc.: "No business, large or small, is running at peak efficiency if its executives are plagued by ill health or fear of ill health. . . . An executive with an imaginary illness may be just as useless to management as an individual who has a real illness."

On this subject, Dr. William C. Menninger, famed psychiatrist of the Menninger Foundation, Topeka, Kan., said recently: "The average executive is burdened by excessive working hours, yet has more work than he can get done in any working day. He takes his work home at night and still rarely has the satisfaction of knowing that it is really done." Tragically, Dr. Menninger continues, "The executive spends 80 per cent of his time talking to people, yet seldom has anyone to talk to about his own problems."

The solution? According to the Commerce and Industry Association, any program designed to give executives and managers confidence and reassurance about their physical or mental condition is worth more than the cost of such a program. It will pay off in more efficient and successful output by the executive in managing his company's affairs.

● **Best bet on brainstorming**—Before it can slip your mind get a copy of Charles Clark's new book on creative thinking: Brainstorming (Doubleday & Co., Inc., Garden City, N. Y., $4.50).

For all true believers, as well as those with little faith in brainstorming, there is real meat here. You will find valuable do-it-yourself tips on creative thinking. For instance, in his chapter "Troubles are a Brainstormer's Best Friend," Clark tells of one production genius who refuses to hold meetings in his front office. When there is a problem he goes out to the shop, to the spot where a machine is broken down or a log-jam of parts is piled up. "Often I see an entirely different problem from the one they tell me about," he explains.

Another executive holds regular sessions called "Clouds on the Horizon Meetings." "We try to smoke out little troubles before they develop into big problems," he says. And the Downingtown Paper Co. added a new suggestion system in which employees are asked to submit entries to find the problem of the month.

These and many more examples keep this book down to earth, its vision in the stars.

● **Books for the kids**—The signs above the racks read: "The books on these shelves are books that small children will enjoy. Take one home with you to read to your children. They will have a good time and so will you. Bring it back when you and your children have finished it together so other families may enjoy it too." During the first year, Automatic Transportation Co.'s (Chicago, Ill.) librarian estimates that every one of the original 156 books has been checked out at least a dozen times.

The idea for the program came from Yale & Towne Manufacturing Co.'s president, Gilbert W. Chapman. He is chairman of the National Book Committee and an advocate of reading aloud to children at home and elsewhere.

Employee response is best measured by the library's use, but workers are free with their praise. At least 5,000 children have enjoyed the books. Initial outlay for the program was only $250—for books and shelves. And it reaches employees "where they live."

● **Court decisions—unions pay for workers' losses**—It is getting tougher for unions—easier on employers—as the National Labor Relations Board, Congress, state legislatures and the courts teach the fine art of combining responsibility with union power. The latest lesson was handed down by the U.S. Supreme Court when it upheld an award of $10,000 to an employee who was prevented from getting to work during a strike. The pupil this time was a UAW local in Alabama whose members prevented the non-striking worker from entering the plant by means of mass picketing and threats of violence.

This nervy worker took the union to state court asking for damages for malicious

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Philadelphia Electric Co. controls costs by scheduling salary payments over the five working days

You can make every day pay day

By CONRAD F. MILLS

Manager
General Accounting Division
Philadelphia Electric Co.

The increasing interest in cost reduction and cost control during the past year has coincided in many cases with the reduction in earnings some companies have experienced. As a result, key personnel are being required to exercise their utmost ingenuity in developing new techniques to effect actual cost reduction and to set up adequate cost controls.

This article will describe certain procedures followed by the Philadelphia Electric Co. which are not in general use by other companies. The techniques selected can be summarized as follows:

1. The payment of part of the payroll each working day of the week.
2. The use of predetermined manhour rates in distributing charges for a substantial number of operating and engineering departmental groups.
3. The scheduling of monthly meetings of key personnel for the discussion and review of current costs and activities.

Philadelphia Electric Co. is a combination company which sells gas, electricity and steam. It is the major component of a five company system which includes three wholly owned subsidiaries whose sole function is the ownership and operation of the Conowingo Hydro-Electric Project, and one distribution subsidiary which serves electricity in two counties of northern Maryland.

In 1957, system operating revenues approximated $236 million, including $198 million electric, $33 million gas and $5 million steam. The electric territory served has a population of about 3.5 million, covering the city of Philadelphia and nearby counties of Pennsylvania and Maryland. It embraces a service area of 2,340 square miles.

The author points out in this paper that key personnel have an obligation to seek new ways to effect actual cost reduction

We provide 900 Btu mixed, manufactured and natural gas to part of five southeastern Pennsylvania counties adjacent to but not including Philadelphia. This area has a population of more than 1.2 million. Steam heating service is supplied in the central Philadelphia business district and in portions of West Chester, Pa.

The company employs 9,000 persons and has had a weekly payroll system (except for an executive group of about 25 persons who are paid monthly) since 1942. Prior to 1942, payrolls were on a semi-monthly basis. The change to weekly payrolls was made due to employee requests and the need to improve the internal system with the growth in various related factors that had to be handled.

Since the company uses tabulating equipment exclusively in the computation of payrolls and the preparation of payroll checks, it was determined at the time of the 1942 changeover to pay some portion of the payroll daily.

The scheduling of payments over the five working days in order to obtain a daily equality of volume was done generally on a geographical basis. Our company has five divisions in the Philadelphia suburban area. One of these was selected for payment each day. We have two central city office buildings in which the major portion of our general office employees are located. Employees in one of these buildings are paid on Mondays and Tuesdays and those in the other building on Thursdays and Fridays.

We also have a combined service and office building less centrally located which houses many activities including

stores, transportation, appliance service and meter department, whose employees are for the most part paid on Wednesdays.

This scheduling permits an even flow of work daily, with peaks of unusual activity limited to those weeks containing a holiday. However, plans are made in advance for handling five payrolls in four days so that relatively little overtime is required. Under the plan, payroll checks and bank statements are received daily from the bank, and an even flow of reconciliation of the payroll bank balances can be maintained.

The man-hour rate method used in distributing many payrolls is designed to clear labor charges to work orders or accounts for those groups where it is impossible to assign a fixed account clearance for individual employees. Philadelphia Electric Co. has been following a man-hour rate method since 1919. At present, this method is applied to nearly 3,700 employees, or about 40 per cent of the total number of employees, for the following general areas of the company:

Gas production plants, gas transmission and distribution, engineering division, including drafting, construction forces, research division, electric generating stations, electric transmission and distribution, auto repair and maintenance, and building maintenance.

A separate man-hour rate is developed for each of these activities. Rates are based upon direct productive labor hours and include all payroll charges of the foremen and all of the men under their supervision. Superintendents, expediters, dispatchers, estimators and miscellaneous clerical employees, with minor exceptions, are not included in the man-hour rate, but are charged directly to the appropriate supervision and engineering accounts.

The payroll charges included in the man-hour rate are as follows: Regular pay, overtime pay, vacation pay, sick pay not covered by insurance, termination pay, petty cash where reimbursed through payroll checks, and training program costs.

The petty cash reimbursements through payroll checks are limited to the following expenditures made by employees: Overtime meal allowances, routine traveling expenses when assigned to other than normal working base, and telephone calls.

Prior to 1942, the man-hour rate was recalculated monthly and the charges for the individual payrolls were distributed in their entirety. This involved a delay in distributing dollars to accounts and work orders until after the close of each month. It also resulted in a comparatively wide variation in the rate as between the various months of the year due to vacations and other factors.

From 1942 to 1949, a predetermined man-hour rate was calculated based on the actual expenses for the previous 12 month period. At the end of each month, the oldest of the 12 months used was subtracted from the cumulative total and the expense of the current month added. After such computation, the advisability of adjusting the existing rate was reviewed, and changes were made, if necessary, to conform with known factors which were not reflected in the past 12 month experience.

This allowed the distribution to be made currently during the month and also tended to reduce the fluctuations between months. However, it was still not flexible enough to conveniently absorb major changes such as general increases or extension of vacation allowances to long service employees in accordance with revised personnel policies.

Beginning in 1950, the man-hour rate has been calculated as follows:

(1) The total productive hours for the twelve previous months is divided into the total payroll charges for the same period, which produce the January figures; and

(2) Subsequent to January the rate obtained is adjusted, if necessary, in the light of known facts, such as general increases, changes in programs, increased vacation allowances, and other conditions requiring consideration.

The departments and divisions whose payrolls are distributed on the basis of a man-hour rate send their labor distribution sheets daily to the tabulating section of the general accounting division. These labor distribution sheets are completely independent of the weekly time reports forwarded to the payroll division, which form the basis for the computation of the weekly pay check of each employee. This provides a means for assuring that the total hours on the labor distribution sheets are in agreement with the total hours appearing on the time reports sent to the payroll division.

Labor distribution tickets are made up for individual employees in certain areas such as the engineering divisions, while gang sheets are used in other company areas such as the transmission and distribution departments. On both reporting forms a distinction is made between productive and non-productive hours. Productive hours are those actually worked on a specific job, regardless of whether they were performed on a regular or overtime basis. Non-productive hours are those for which an employee will be paid but which were not related to a specific job, such as vacation, company approved holidays, standby hours and inclement weather.

The work order or account to which the productive hours are to be charged is shown on the labor distribution sheet. The tabulating section assigns a memorandum work order for charging the non-productive hours, which is necessary for balancing purposes. This memorandum work order is not assigned in the field so that it cannot be used indiscriminately.

The aggregate amount of payrolls disbursed during the month, for those groups coming under the man-hour rate, is debited to work in progress work orders issued for each individual payroll at the end of the month. The tabulating section debits the work orders or accounts referenced on the labor distribution sheets, at the predetermined rate, and credits the work in progress work orders. Any difference between the amount actually disbursed and the amount distributed is carried forward to the next month as either a debit or credit in a subdivision of account 145, other work in progress.

The advantages claimed for using a man-hour rate, as carried out by Philadelphia Electric Co., are as follows:

1. Substantial saving in time in monthly closings, in that distribution of charges can be made as they occur, rather than waiting until the end of a month or other payroll period. The "delusive exactitude," as one writer on accounting subjects has described some of our traditional accounting procedures, inherent in balancing payroll payments with labor charges to the last penny, which frequently is time consuming to an exasperating degree, is avoided by the use of a man-hour rate.

2. Tends to spread seasonal or unusual charges over all jobs for the entire year. In this way January and February

jobs are paying their share of vacation time the same as July and August jobs when vacations are heavy.

3. A reasonably accurate rate is always available to the operating departments for their use in estimating jobs. Under other systems, a job may be planned and estimated for January, a low productive hour rate month, but not accomplished until July, a high productive hour rate month, with the result that the cost of the job far exceeds the estimate.

4. Makes costs of like jobs similar, regardless of whether performed on a regular or overtime basis.

Two schedules accompanying this paper summarize the experience of the company in using the man-hour rate during 1957. Schedule A shows the experience of an actual department designated as Department X, while Schedule B shows the combined experience for all departments using the man-hour rate.

Schedule A shows that of the actual payroll of $1,238,083 for the year, an over-distribution of only $454 was made, which reduced the cumulative balance of $4,665 at the beginning of the year to $4,211 at the end of the year.

The influence exerted by variable factors, which are effectively minimized with use of the man-hour rate, is shown in the month of December. The actual hourly rate paid increased to $4.579 in that month, by far the high point of the year, but the use of a $4 rate for distributing charges during the month permitted distribution of the actual payroll for the year with a variation of only $454, as previously mentioned.

Non-productive hours for December were the highest of the year, 4,745, due principally to the extension, early in 1957, of paid vacations from three weeks to four weeks for employees having 25 or more years of service and the inclination of employees to save part of that increased vacation until the year end holiday period. The cumulative man-hour rate paid was $3.693 for the entire year, which was within two-tenths of one cent of the $3.695 average rate applied in distributing the labor charges.

Schedule B shows the combined company experience for the year 1957 for those departments using the man-hour rate. The total payroll so distributed amounted to $25,538,726 with an under-distribution of only $34,005 or slightly more than one-tenth of one per cent. This increased the over-all cumulative balance in undistributed work in progress from $6,276 to $40,281 in the previously described subdivision of deferred debit account 145.

A pattern of over-distribution can be observed in the first half of the year in anticipation of the months having comparatively large amounts of non-productive hours caused principally by vacations.

Some general observations can be made at this point regarding the acceptance of our man-hour rate by independent agencies. Insurance companies have paid claims for fire and storm damage, some of which have been substantial, which have included labor charges predicated upon the use of man-hour rates. Reimbursements for facilities moved due to highway relocations have been com-

(Continued on page 30)

Schedule A
EXPERIENCE OF DEPARTMENT X FOR 1957 IN USE OF MAN-HOUR RATE

	Non Productive Hours	Productive Hours	Actual Payroll	Hourly Rate Actual	Hourly Rate Applied	Distributed Payroll	Undistributed Payroll	Cumulative Balance	Cumulative Productive Hours	Cumulative Actual Payroll	Cumulative Distributed Payroll	Cumulative Man Hour Rate Actual	Cumulative Man Hour Rate Applied
Balance, Jan. 1, 1957								$ 4,665					
January	3,717	28,326	$101,700	$3.590	$3.65	$103,391	($ 1,691)	2,974	28,326	$101,700	$103,391	$3.590	$3.650
February	2,452	25,543	92,109	3.606	3.65	93,235	(1,126)	1,848	53,869	193,809	196,626	3.597	3.650
March	4,518	27,999	101,969	3.641	3.65	102,197	(228)	1,620	81,868	295,778	298,823	3.612	3.650
April	4,353	26,997	100,248	3.717	3.65	98,541	1,707	3,327	108,865	396,026	397,364	3.637	3.650
May	1,488	30,824	109,215	3.543	3.65	112,510	(3,295)	32	139,689	505,241	509,874	3.616	3.650
June	1,037	30,943	100,329	3.242	3.65	112,944	(12,615)	(12,583)	170,632	605,570	622,818	3.548	3.650
July	1,391	29,969	114,329	3.814	3.65	109,391	4,938	(7,645)	200,601	719,899	732,209	3.588	3.650
August	876	30,473	105,981	3.477	3.75	114,277	(8,296)	(15,941)	231,074	825,880	846,486	3.574	3.663
Sept.	1,484	26,340	102,042	3.873	3.70	97,460	4,582	(11,359)	257,414	927,922	943,946	3.604	3.667
October	1,965	29,948	113,946	3.804	3.70	110,810	3,136	(8,223)	287,362	1,041,868	1,054,756	3.325	3.670
Nov.	2,286	24,751	90,665	3.663	3.70	91,578	(913)	(9,136)	312,113	1,132,533	1,146,334	3.628	3.672
Dec.	4,745	23,051	105,550	4.579	4.00	92,203	13,347	4,211	335,164	1,238,083	1,238,537	3.693	3.695

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Schedule B
COMPANY EXPERIENCE FOR 1957 IN USE OF MAN-HOUR RATE

	Non Productive Hours	Productive Hours	Actual Payroll	Distributed Payroll	Undistributed Payroll	Cumulative Balance	Cumulative Productive Hours	Cumulative Actual Payroll	Cumulative Distributed Payroll
Balance, Jan. 1, 1957						$ 6,276			
January	54,191	625,200	$2,170,133	$2,274,483	($104,350)	(98,074)	625,200	$ 2,170,133	$ 2,274,483
February	44,026	535,565	1,891,787	1,951,359	(59,572)	(157,646)	1,160,765	4,061,920	4,225,842
March	56,644	589,947	2,013,425	2,155,267	(141,842)	(299,488)	1,750,712	6,075,345	6,381,109
April	57,780	576,375	2,080,399	2,088,730	(8,331)	(307,819)	2,327,087	8,155,744	8,469,839
May	49,187	620,132	2,182,335	2,243,727	(61,392)	(369,211)	2,947,219	10,338,079	10,713,566
June	45,627	578,848	1,941,474	2,092,178	(150,704)	(519,915)	3,526,067	12,279,553	12,805,744
July	86,680	563,101	2,188,483	2,040,783	147,700	(372,215)	4,089,168	14,468,036	14,846,527
August	81,011	578,077	2,194,094	2,117,765	76,329	(295,886)	4,667,245	16,662,130	16,964,292
September	58,287	572,131	2,172,982	2,093,704	79,278	(216,608)	5,239,376	18,835,112	19,057,996
October	54,565	631,462	2,330,280	2,326,694	3,586	(213,022)	5,870,838	21,165,392	21,384,690
November	56,674	547,538	2,153,007	1,991,470	161,537	(51,485)	6,418,376	23,318,399	23,376,160
December	88,905	529,537	2,220,327	2,128,561	91,766	40,281	6,947,813	25,538,726	25,504,721

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Raise your long-range sights for better long-term planning

By DR. ELI GINZBERG

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New York, New York

At the beginning of World War II this country had a 132-million population. By 1970, we are going to have on the highest estimate, 208 million or 57 per cent increase in a 30-year period. That is a fantastic increase for this country, but a more important point to the gas industry is the variability within this general increase.

Certain parts of the country are going to increase relatively little. The west north central states and the east south central states will undergo very moderate change. The West Coast's increase will be fabulous. In specific states an increase is anticipated of almost 50 per cent between 1955 and 1970, only a 15-year stretch. There may be an actual decline in the number of people in a few states, as in Arkansas (15 per cent) and in Oklahoma and Mississippi.

There is one important and dangerous thing about dealing with mass statistics. We are a continent and all parts don't respond the same way. Within the general trends there are a lot of contradictory trends. Of particular interest is the question of household formations. We had in 1955 about 48 million households in the United States. By 1970 the estimate is 61 million, just under a one-third increase in 15 years. That is one reason why the gas industry has some real possibility for substantial increases even though the pipes have been laid. Between 700,000 and 800,000 additional families are formed every year.

What about the labor force with which you have to work? In the next 10 years about 60 per cent of the net increase in the labor force—we have about 70 million now and it's estimated it will have to go to 80 million—will have to come from women. There is no other place for it to come from. If you don't add many women to the labor force, the United States will not be able to expand very much. The reason is very simple. The men available by and large are all at work. The net increase in the population that will be of working age will give you an increment of about 4 to 5 million males. If you want to increase by 10 million you will have to dip heavily into the women group.

We have done that, of course, since 1940. There would have been no chance to expand the labor force of the United States by the amount it has been, had it not been for women. Incidentally, that has something to do with the selling of gas products. Twenty-eight million women of the United States worked for wages in 1955 and they earned $42 billion. Obviously, whether the wife is working makes quite a difference in many families in terms of the total income, how much they can buy, and their standard of living.

The women are important from two points of view. One, from a labor force viewpoint; and two, it is important in terms of what their earnings do to the standard of living in the American population.

In the prime working ages, 25 to 44, there will be an absolute decline of the number of males available. Our action or lack of action some 20 years ago had a lot to do with this. In the 1930's people didn't marry as early as they customarily do and they didn't have as many children. We are now going to enter a period in which there is going to be a shortage of males in the prime working ages. There will be actually a million less males in the next decade in the 25 to 44 age group than there has been. Of course, on a relative basis, that's an even further deficiency.

Believe it or not, a good part of the women who have to come into the labor force will have to be over 45 years of age. When you are dealing with women employees you will do better to be interested in skill rather than pulchritude.

The quality of this labor force is a very hard thing to measure. Our usual way of thinking about it was the schooling or background and technical competence of a population.

We hear about the tremendous in-

(Excerpts from a paper given by Dr. Ginzberg at the General Management Section Conference.)

creases in the enrollment. I want to know the kind of institutions these people are going into, what kind of staff they are going to be exposed to and what kind of prior preparation they had, before drawing conclusions. While it's true I think there will be sizeable increases—a million more boys and girls getting out of high school every year, a quarter of a million by 1965 of college graduates every year, maybe 30,000 more master's graduates every year and a few thousand more Ph.D.'s every year—you must really go back of those mass figures and ask some questions about quality.

People will have more degress, and this has little relevancy to your problem. I don't think the degrees tell you very much. You'd better go back of those degrees. Qualified people will be in short number, it's quite clear. The universities are going to have to do something to increase the teaching staff and to do a better holding job, and business in general I think has begun to learn a lesson: that, by and large, good investments in people are really the cheapest investment you can make—they pay off best. So I think there is going to be a very tight competitive labor market for good people.

I think the pressure is going to be on public utilities about the hiring of people from minority groups. I talked to the personnel men of a major utility recently and I told them I thought that they had only one of two choices: to wait to be pushed, at which point they will have to take a percentage of the minority people; or take the lead and try to take some of the cream off. If you wait to be pushed you become more vulnerable. As a public utility, your employment practices affect the entire community.

The long term trend in the United States is towards a lesser emphasis on work in our total life. If you look at 1960 or 1965, there is no question about it. We have now reached a point through our productiveness where people think about their total life as based on-the-job and off-the-job. A lot of people are perfectly willing to do a day's work, but not a day's work plus one minute.

People's working habits are conditioned by the community and people with whom they are associated. That means you will have more and more of a challenge to find a minority of people who are interested in work largely for its own sake and what they want to do for themselves.

The nature of the economy and the world in which we will be living will continue to be sufficiently complex so it will be highly desirable for management at successive levels to be exposed to people who know things. No matter how good are the people you originally hire, unless you make a continuing effort in their development, they won't do you much good.

Now, that's the trend—big increases in population and a rather tight labor force, uncertain quality of that labor force, some improvement, high competition for the good people, shortage of good younger males, no great numbers who want to work very hard.

What about the gas industry? I am impressed with the fact you have expanded very rapidly. That means that you have expanded with the people whom you had present, and that means that you look better than you probably are. How can you look bad if you are expanding very fast?

Declining: best test

I always say that the test of management is not when you are expanding, only when you are declining. I don't want to wish a decline on you but what I suggest is that you don't really keep as tight control over your personnel, you don't know very much about the evaluation of what you people can perform until you have been squeezed more than you have been. I submit you probably have a relaxed personnel system under operation.

The second thing that impresses me is that you have been moving increasingly from a local, intra-state operation into the federal domain. That places you in a much bigger goldfish bowl than you have ever been in before, which probably has quite a few implications about how you do business. Yet, there must be differences between doing an intra-state business, where you have going relationships and know the mores and everything else, and operating in the full searchlight of the national press, Washington, etc. That takes quite a little adjustment.

The third point that strikes me is that you are suddenly exposed to this interesting but somewhat flexible consumer who has quite a lot of alternatives. As you move from the manufacturing and distributing end, as you move from dealing with just the industrial consumer to the final consumer in the home, I think you really have more personnel problems than you yet realize about how to sell appliances aggressively in our kind of economy.

General Electric operates quite differently than the gas industry. I submit this is a challenge you have to face up to if you are going to improve your position.

It goes all the way to reaching a point where I am not scared of turning on an electric stove but am still scared of turning on the gas stove. When my wife had a gas dryer she had to call the handyman; he would use a great big piece of paper to light it. She was scared to light it. That's not a good way to deal with the American consumer in 1958.

The next thing that strikes me is that you are not fully adjusted to the fact that you used to buy coal and made gas. Now you are really dealing with a complicated resource, natural gas, with all kinds of long range implications about supplies, wasting resources, and the possibility of developing new substitutes for it. This is a big transformation when your raw materials undergo that kind of alteration. The implications for long range planning, financing, and management, I am sure have not come through fully, by a long shot.

I heard about one company that is living practically on a day-to-day financial basis. It looks at its daily revenues to find out what its financial needs were and how much it could borrow. That's really a strange predicament to be in for an important industry like gas, the fifth largest industry. I get the impression that your whole adjustment to the capital markets is something you haven't really caught up with.

Are you fully up to date on all the questions of what might be called technical staff specialists? Have you really learned to make as much use of technically trained people in the staff capacity as you could profitably use.

I don't want to say you should hire any of our graduate school students. You have a long tradition of promoting only from within. As far as I know at the college and technical level you are used to hiring only three types of people—engineers, lawyers and accountants. I have nothing against them but in the question of the range of skills, you need to go beyond those three. I just wonder whether you couldn't make use of a couple of good statisticians and economists in the preparing of briefs, etc. Maybe just some people who can write

English and present a case to the public well. I don't want to mark down what I would call just a decent, bright fellow who has a liberal arts education.

The next thing that strikes me is that you are in a particularly vulnerable position, as I see it, in being an industry that has to pursue its research and development efforts through a single industry-wide kind of undertaking. The thing that impresses me from other industries is the extent to which the research and development frontiers are being pushed aggressively. You may be very impressed by the fact that you spent $3½ million or $4 million a year, but I am very unimpressed with the figure. I think it's much too little. Since your whole future is dependent on a whole series of technological break-throughs, I think unless you can gear yourself up to much more of an effort than I yet see, I would be somewhat nervous for the future.

Finally, I am startled by the fact that you have got 1200 operating companies, plus or minus. It would seem to me that here is a place where consolidation and diversification, in just that order, is a natural. I assume that selling gas in market "A" can't be so awfully different from selling in market "B" so that if you can get some larger companies together you could make some sizeable economies in overhead, make more use of strong people, get more financial resources, and move faster. I look at the economy and look at you but I just see a great big question mark—why you aren't behaving more like the other industries?

I'll summarize these observations on the gas industry by saying there are three facts I found for myself about the transformation of the gas industry. You are really moving from what might be called a more narrow, controlled local public utility to a somewhat broader, open and competitive economy. By the use of natural gas, you are moving into contact with the final consumer. You have transformed yourself part of the way—I am not sure how far—from a kind of protected local public utility to a much more open and competitive universe and that's why I think you are worried. Although I am not a psychiatrist, I sense a kind of neurotic sensitivity on your part towards the electrical industry. My interpretation is that those fellows are used to dealing with this open, competitive economy and you really aren't. Well, that is a little nerve wracking, I don't wonder.

If I were in your position, I'd be a little restive, because this is a new world and you haven't learned about it fully.

The next point that strikes me is that you are involved in long range problems. Since you are a public utility, you have always been long range in one sense of the term, but I think you have got to be long range in a different sense of the term. You have got to be dynamically long range. When you have to go looking for your raw material supplies and you have to worry about what the electrical industry is going to do and you have to think about whether you can get some new kind of fossil fuels useful 20 years hence and how, perhaps, you will be affected eventually by atomic energy—all this means that the kind of forward looking you have to do and the kind of planning you have to do is really stepped up.

Now, all of American industry, in my opinion, is becoming very much more long range, and this is a big challenge to gas. That is the second point.

Be sophisticated

The third point that strikes me can be defined by the word "sophisticated." I said my impression of the gas industry has been that historically it was a stolid industry, that is, solid, respectable, secure. That is why it is the kind certain investors liked. But I think you have to move from stolid to sophisticated.

I don't think there is any room left in this kind of economy for any but sophisticated industries. Who is going to take care of you? Only you, yourself. The commission can only help you part of the way. You had better help yourself and if you want to help yourself you have got to get sophisticated in the general sense of the term. That means you have to learn to deal with the total public, all branches of the government, and deal with trade unions.

There was one pipeline started, I understand, that had to come north to the northeastern area and somebody asked whether they had done any talking to the trade unions. They said, "No, why do we have to talk to them? We don't have any problems with unions." But they didn't get across Pennsylvania until they talked to the unions. That's what we mean by getting sophisticated.

Now, what are my suggestions to you? My first suggestion is that if the gas industry is going to get sophisticated management, it is going to have to compete for it. The number of people willing to work, and work hard, is limited and in my opinion will get more limited. That means you can't only do it by better procurement or initial procurement because people are only going to come to you, good people, if they think they have a real challenge. Good people don't want to go to a stolid industry. Why should they?

So the question—this is a kind of vicious cycle—as the kind of an industry you are has a lot to do with the kind of people you draw. It stands to reason. The same way with money. The kind of industry you have been and your earnings record has a lot to do with the kind of money you can draw. You can continue to draw people but I'm asking you to think about whether you can draw the kind of people you need. That has a lot to do with what kind of opportunities you can build in to redesign your industry and your companies.

You, obviously, have a lot of assets you haven't used. You have an ideal field from many points of view. Just as an outsider it looks to me that the United States is tending to make sewers out of the heavens—that is what I heard one health officer say in New York—I think you could push advantageously the whole question of clean fuel very well. Apparently from what I hear your fuel has many advantages and the question is how you can really move to take full advantage of your latent advantages. This is one of the challenges I leave with you.

I do believe specifically in looking for new people that you must broaden your horizons. Historically you take people out of the engineering schools and law and accountancy schools. That is not enough. However, I don't think you have to take many people from elsewhere, but some. You have got to get a few people who know something about labor; people who know something about the sciences. Try to interest them in your business.

The next point that I want to make is a point which I gather is demonstrated in this industry but not enough. You don't do enough of lateral transfer of people. Why don't you try to pick up a few people from General Electric or a similar company in their early period when they have learned something but before they have gone too far. Pick up people from the government. This is a way you compete for personnel. Let the

other guy train them. He has different ways of doing business and you can't have all the answers. Bring them in. You don't have to destroy promotion from within. You surely want to attract a few officials who had something to do with the other side of regulation.

I fear you have, as I suggested earlier, a major problem in the research and development field and I don't think that trade association research per se is the only answer. I think the gas industry needs larger companies and that is why I said something about consolidation and then you have to move toward diversification within larger companies. Stay away from the conservative investors and find some others. I don't think that's a reason for not moving. I would say you have to be big. You can't have 1200 little companies trying to sell gas.

I am absolutely nonplussed about your appliance problem. I keep hearing you are dependent on somebody else to manufacture your appliances and the somebody else doesn't exist. It doesn't make much sense to me.

I will conclude by saying that I think if there is a single note on which I want to end is that the quality of your long range planning affecting your market, affecting your financing, all of this needs to be stepped up. Your long range sights have to be raised and if you do that the most important of all your long range planning ought to be with respect to your people, especially your key people because if you do that right you will get the answers to your other questions.

Every day pay day

(Continued from page 26)

puted on the appropriate use of man-hour rates. In no instance have labor charges arrived at in the manner described been disputed or disallowed.

For several years monthly meetings have been held in which a review has been made of the operating results of the current month compared with the same month of the preceding year and with the budget. This meeting is presided over by the vice-president, finance and accounting, or by the comptroller. The attendance of all other vice-presidents or their direct representatives is expected, accompanied by such staff personnel as they deem necessary.

Explanations of variations in operating results in each area of responsibility are prepared a day or so in advance of the scheduled meeting date in the form of a letter accompanied by a brief condensed statement, which material is forwarded to the financial vice-president for his review.

One direct benefit of these meetings has been to increase the cost consciousness of key executives throughout the organization. Another benefit is that the meetings provide one of the best mediums of communication yet devised, particularly with regard to the staff members present, who thus have an opportunity to obtain a broader view and understanding of the activities and plans of other company areas. The management's monthly letter to the board of directors is drafted after this meeting, and frequently contains facts or explanations developed from it.

There is a constant striving for improvement in the form and content of the meeting, in that explanations may become stereotyped and some personnel encounter difficulty in obtaining specific answers regarding the numerous transactions involved. However the feeling is that the meetings have contributed materially to the information gathered for the benefit of the top executives, that the staff personnel have become better informed, and that it aids cost control.

Facts and Figures

(Continued from page 19)

rate of 1,160,000 and considerably above the recession low of 915,000 in February.

The bright picture in housing starts has also been reflected to an extent in the continued rise in the general business activity of the nation as measured by the Federal Reserve Board Index of industrial production. The August index on a seasonally adjusted basis was 137 per cent of the 1947-1949 average, three points above the July level and 11 points above the recession low of 126 per cent reported in April, 1958.

Shipments of gas heating equipment and automatic gas water heaters continue to post gains over comparable periods of a year ago. These gains are beginning to reflect the increased home construction activity since April, 1958.

Total sales of the gas utility and pipeline industry during July, 1958 amounted to 4,860 million therms, a decrease of 1.9 per cent from the 4,956 million therms sold in July of last year. This is the second consecutive month and the third time since 1949 that total gas sales registered a decline. The Association's July index of gas utility and pipeline sales is 228.2 (1947-1949 = 100).

During the 12 months ending July 31, 1958, total utility and pipeline sales of gas aggregated 79,096 million therms, up 5.6 per cent over the comparable cumulative period ending July 31, 1957.

GAS INDUSTRY INCOME STATEMENT

(MILLIONS OF DOLLARS)
(REFERS TO ALL DISTRIBUTING UTILITIES AND PIPELINE COMPANIES)

TOTAL INDUSTRY

	Twelve Months Ending June 30		
	1958	1957	Per Cent Change
Total operating revenues	$6,859	$6,090	+12.6
Operating expenses—operations	4,386	3,858	+13.7
Operating expenses—maintenance	244	228	+ 7.0
Operating expenses—total	4,630	4,086	+13.3
Depreciation, retirements, depletion, amortization, etc.	463	425	+ 8.9
Federal income taxes	518	468	+10.7
All other taxes	351	314	+11.8
Total taxes	869	782	+11.1
Total operating revenue deductions	5,962	5,293	+12.6
Net operating revenues	897	797	+12.5
Other income	114	62	+83.9
Gross income	1,011	859	+17.7
Interest on long-term debt	303	243	+24.7
Other income deduction	(9)	6	—
Total income deductions	294	249	+18.1
Net income	717	610	+17.5

A.G.A., S.G.A. sponsor second symposium to learn about heat application for processing operations

Gas men study textile problems

The second annual textile symposium, designed to help the gas industry better serve the textile trade by learning about their problems in the area of heat application for processing operations, proved to be one of the most significant steps ever taken jointly by two major industries.

Sponsored by the American Gas Association and the Southeastern Gas Association, some 125 textile processors and equipment manufacturers met with gas industry representatives and manufacturers of gas equipment Sept. 8-9 at Greensboro, N. C.

The meeting was under the direction of the A. G. A. Textile Processing Committee. E. V. K. Schutt, committee chairman, Central Hudson Gas & Electric Corp. industrial engineer, presided. Charles E. Zeigler, committee vice-chairman and executive vice-president, Public Service Co. of North Carolina, Inc., extended greetings on behalf of the Southeastern Gas Association.

The symposium was opened by Ralbern H. Murray, secretary, A. G. A. Industrial and Commercial Gas Section, who told of the magnitude of the gas industry.

The opening speaker was Harold B. Sturtevant, Jr., technical service representative, fiber department, E. I. du Pont de Nemours & Co., Inc. He spoke on "The Effect of Heat on Chemical and Physical Properties of Poly Fibers."

Heat is the most important single factor connected with the production, processing, and care of the modern synthetic textile fibers, he said. "Before the coming of nylon, heat was used in textile finishing basically for drying. Today," he said, "heat is a tool that allows the

Symposium speakers gather at a breakfast at the Sedgefield Inn, Greensboro, N. C., hosted by E. V. K. Schutt, chairman of A. G. A.'s Textile Processing Committee

The Symposium's opening session speakers, Dr. Melvin D. Hurwitz (l.) and Harold B. Sturtevant, Jr., confer with Mr. Schutt (r.), the director of the annual meeting

Participants in the panel discussion were (l. to r.): H. A. Dameron, W. A. Metcalfe, Normand S. Pliner and D. A. Colker. All delegates attended this event

Sept. 8 morning speakers at the symposium were (l. to r.): Charles E. Zeigler, Robert C. LeMay, John Sellors, Jr., Charles H. Rutledge, and John G. Hopping

Dr. Edward R. Murray of the faculty of North Carolina State College of Agriculture and Engineering concluded the symposium's opening day of conferences

producer to develop fiber characteristics, freedom from shrinkage, attainment of predetermined dimensions and geometry, and resiliency."

Mr. Sturtevant explained the techniques of heat application to nylon, dacron and orlon and said the temperature ranges required could only be obtained with gas fuel. He emphasized the need for accurate control in all processing operations on synthetic fabrics to attain uniformity and quality in production.

Concluding the first morning session, Dr. Melvin D. Hurwitz, Products Development Laboratory, Rohm & Haas Co., Philadelphia, spoke on, "The Curing of Resin Treated Fabrics Made from Natural Fibers." His paper was devoted to chemical formulas of the different resins applied to cotton and wool fabrics and to the effects of time and temperature to attain desired finish characteristics. He cautioned that an understanding of the chemistry of resin finishes was essential to effect the desired fabric modifications for a particular finished product.

The Southeastern Gas Association was host at the opening luncheon.

The afternoon session opened with the showing of a film, *River In The Way,* a dramatic portrayal of what a big job it is to put a natural gas pipeline across the Mississippi River.

Most of this session was devoted to a panel discussion led off by H. A. Dameron, managing engineer, J. P. Stevens & Co., Greensboro, who described the successful use of gas equipment at his plant. He said this was due to using proper equipment and keeping it in good condition to insure control and uniformity in all processing operations.

Normand S. Pliner, plant engineer, Charlotte Development Laboratories, Celanese Corp., discussed the part engineering plays in the development of plant processing equipment. When a new fabric or process idea comes from the laboratory, the engineers take over and develop the most efficient equipment to manufacture and process the new product on a pilot or semi-works scale, he said. Flexibility must be designed into this equipment so that it can be enlarged to meet consumer production demands. This involves not only engineering, Mr. Pliner said, but the complete facilities of shop, mechanical service, erection, installation, maintenance, housekeeping and safety personnel.

W. A. Metcalfe, vice-president, J. O. Ross Engineering Division, Midland-Ross Corp., spoke on "Convection Air Application to Fabric Drying." He explained the principles of convection drying and emphasized the necessity of breaking through the vapor film which forms on the surface of wet material. "Once these factors are known and understood, design of drying means should

(Continued on page 39)

Committees develop section programs for coming year

Nearly 250 technical and engineering personnel attended the organization meetings of the Operating Section's committees in Cincinnati during the week of Sept. 8. For three days, they attended 48 individual sessions conducted by 28 committees, subcommittees and task committees of the Section, reviewing the work they have accomplished during the past year and planning the programs they will undertake for 1959. These are the committees which will take office in October 1958, immediately following the adjournment of the Association's annual convention.

H. C. Jones, of the New England Electric System Gas Division, as chairman-nominee of the Section, opened the series of meetings by urging committee members to greater efforts on behalf of their companies and the entire industry.

"This year," he said, "was a year of accomplishment for the Operating Section; however, in 1959, we must strive for even greater gains." He pointed out that, in every operating field of the gas industry, there are problems which call for solutions; as well as new techniques, processes, methods and materials which must be studied and reported upon.

Every phase covered

The committees then went into session and developed programs covering almost every phase of industry operations.

Among the groups which met were the committees and subcommittees on Automotive and Mobile Equipment; Chemical and Engineering; Communications and Tele-Control; Corrosion; Customer Service; Distribution; Gas Dispatching; Gas Measurement; Manufactured Gas Production; and Transmission; and the Managing Committee.

Meetings were also held of the Task Committees on Service Type Regulators; Standards for Valves and Shutoffs; and Testing, Handling and Repairing of Meters.

A major part of the work of the committees consisted of developing programs for the Operating Section's three spring conferences, scheduled for April and May of 1959. These conferences will be held at the following times and places:

Distribution Conference: Netherland Hilton Hotel, Cincinnati, April 6-9.

Transmission conference: Statler Hilton Hotel, Dallas, May 18-19.

Production Conference: Sheraton and Manger Hotels and Treadway Inn, Rochester, New York, May 25-27.

Earlier in the week, the Section's Committee on Underground Storage held a three-day meeting in Clarksburg, W. Va.

Gas companies sponsor scholarships at IGT

Opportunities in the gas industry are not generally appreciated by college students. Therefore, to interest young engineers in the industry and its operations, in the fall of 1953 the Institute of Gas Technology began granting half-tuition junior-senior scholarships to young men who would enroll in the gas technology option in chemical or mechanical engineering at Illinois Tech, and give the gas industry fair consideration when they sought employment upon graduation.

The recipients were required to attend the IGT summer session in natural gas technology between their junior and senior years.

The following year the grants were enlarged to cover full tuition for the junior and senior years, and the recipients were required to spend the intervening summer in employment, at student engineers' wages, in the gas industry with cooperating companies.

These scholarships proved attractive, but the employment record of the graduates showed that this program did not meet all of IGT's objectives to train men for the industry at large, since most of the students were from the Chicago area, and a high proportion of them wished to obtain permanent employment in that area.

Five scholarships

A plan designed to be of greater service to the entire industry was put into effect in September, 1957. Five full-tuition four-year scholarships are granted annually by IGT, from funds provided by member companies and contributors, to qualified high school seniors in the operating areas of member companies.

Each participating company has the major role in selecting the IGT scholarship grantee, since the company is essentially picking a prospective employee for IGT to train. IGT and Illinois Institute of Technology rule only on the admissibility of the student to Illinois Tech.

Under the conditions of the grant, the student works near his home for the member company during each of the three summers he is in school. These summer training periods give the company an opportunity to re-examine the student's capabilities and obtain first-hand knowledge of his development and potentialities; they give the student an opportunity to become well acquainted with the company, so he should be attracted to it when he seeks permanent employment.

Different companies are selected to grant the award each year to provide wide geographical distribution of graduates. Each member company will have the opportunity to award an IGT scholarship about every six years.

Last fall, four freshmen and a sophomore were enrolled under the new plan. They were selected by Baltimore Gas & Electric Co., Northwest Natural Gas Co., Philadelphia Electric Co., and Rochester Gas & Electric Corp., from their service areas.

This year the awards will be made by The Brooklyn Union Gas Co., Cincinnati Gas & Electric Co., Panhandle Eastern Pipeline Co., and The Columbia Gas System, Inc. The companies report that collectively they have 33 applicants for the five scholarships.

The Consolidated Natural Gas System

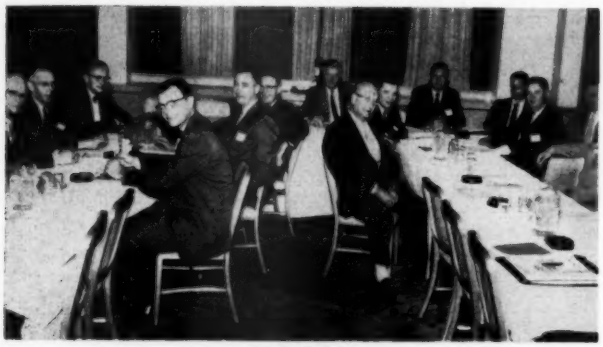
(Continued on page 40)

(This article appeared in the May, 1958 issue of the "News Letter Institute of Gas Technology." It deals with the cooperation of the nation's gas utilities with the Institute in making possible a number of scholarships, thereby making available for the industry a greater number of technically trained young men.)

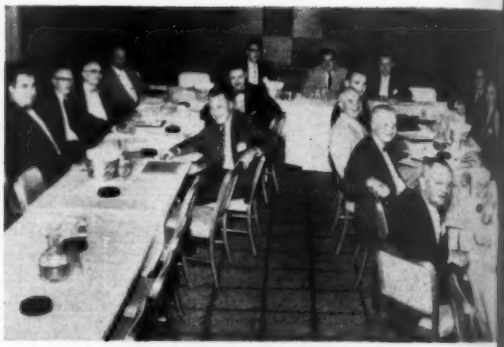
OPERATING SECTION

MANAGING COMMITTEE

STANDING COMMITTEES



DISTRIBUTION
(5 sub-committees)



CUSTOMER SERVICE

AUTOMOBILE & MOBILE EQUIPMENT
(1 sub-committee)

CHEMICAL & ENGINEERING
(2 sub-committees)

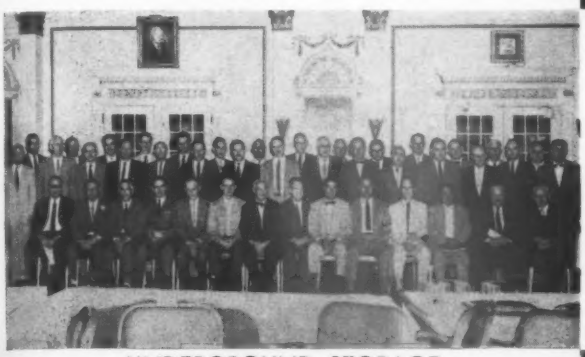
COMMUNICATIONS & TELE-CONTROL

ORGANIZATION

OCTOBER 1958

A pictorial presentation showing the organization of the Operating Section. Photographs were taken at the committee organization meetings early in September.

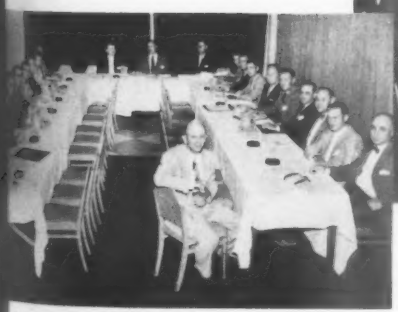
TRANSMISSION
(3 sub-committees)



UNDERGROUND STORAGE
(6 sub-committees)

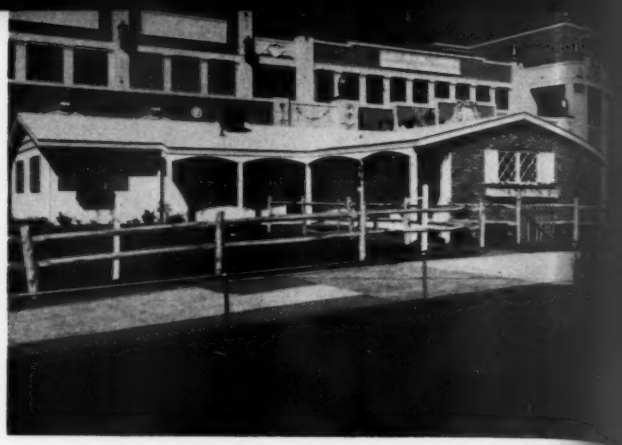
MANUFACTURED GAS PRODUCTION
(4 sub-committees)

GAS DISPATCHING



CORROSION
(2 sub-committees)

GAS MEASUREMENT
(1 sub-committee)



Presidents of the five New Jersey gas companies inspect new all-gas home in Asbury Park. Kitchen is left, front view above. (L. to r.): Harry Carver, City Gas Co.; W. S. Potter, Elizabethtown Consolidated; D. C. Luce, Public Service Electric and Gas; T. H. Kendall, South Jersey Gas; and Dale B. Otto, New Jersey Natural Gas Co.

Major promotions by New Jersey Natural Gas Co. are viewed by thousands on tours and through pages of national magazines

Two all-gas homes give gas nation-wide boost

The New Jersey Natural Gas Co., in conjunction with several other organizations, is currently sponsoring a large-scale promotion on the use of gas through the exhibition of two all-gas homes.

Located in New Jersey—one is on the boardwalk in Asbury Park and the other is in the Oak Ridge section of Middletown—and open to the public, the homes were visited by some one million people during the past summer. Among the unusual pieces of equipment featured are an outdoor gas barbecue, an automatic gas lighter for an indoor fireplace, and four outdoor gas lights.

The $20,000 Asbury Park home is part of a campaign by the New Jersey Shore Builders Association to attract new residents to the shore area. Erected on the boardwalk for display during July, August and September, it was designed as a main attraction of the First Annual Home Show in Asbury Park, from Oct.

Gas is used in 17 different ways in this all-gas home in Middletown, N. J. The home was built to accommodate two generations of one family under one roof. The home has received nation-wide publicity. It was featured in 18 color pages in the September issue of "Good Housekeeping" and was shown in eight pages of "House and Home"

7 to 13, and was offered as a prize to the person writing the best 50-word essay on "Why I want to live in the Monmouth-Ocean County area." Admission to the home was free and entry blanks were available throughout the entire three-month period.

The home, a Scholz Fiesta model, included three bedrooms, a large living room, a dining area, a modern gas kitchen, and a two-car garage. The house is 45 by 26 feet, the garage 14 by 21 feet. The structure will be delivered to the winner on any plot owned by him in the Monmouth-Ocean County area.

Featured items in the Asbury Park home are built-in RCA Estate oven and counter-top burners, an RCA Whirlpool combination washer-gas dryer, a Thatcher furnace, a John Wood Hide-away water heater, an RCA Whirlpool gas refrigerator, and four outdoor gas lights.

The New Jersey Natural Gas Co. and the Shore Builders Association worked closely throughout on this promotion. Harold K. Merritt of the utility's staff also served on the Association's exposition committee, and as secretary-treasurer of the home show committee. William J. Miners, residential sales manager of the gas company, represented New Jersey Natural on both the Asbury Park and Middletown projects.

The Middletown home was built to accommodate two generations of one family under one roof. From the front, the house appears to contain just one story. From the back, however, it becomes apparent that the house has been built on an incline and actually has two stories. The lower floor, visible only from the rear, overlooks a landscaped patio.

Built by Jacob Lefferts, president of Oak Hill Builders, Inc., the house has a white brick and blue clapboard exterior. The first floor includes a living room, a dining room, a family-room kitchen, three bedrooms and two baths. The most unusual of these is the family-room kitchen, which is divided into an area outfitted with the most modern in gas appliances and built-in facilities and a section for informal living, working, eating and television viewing. The lower level of the house contains a living-dining room, a bedroom, a kitchen-laundry and a bath. The garage and storage area are adjacent to the living area on the lower floor.

Gas is used in the Middletown home in 17 different ways. Among these are the outdoor barbecue, the living room fireplace, the appliances in the kitchens and laundry, and the gas lights on the outdoor patio.

This home has already received nationwide publicity. It was featured in 18 full-color pages in the September

1958 issue of *Good Housekeeping* magazine, was the subject of eight fully illustrated pages in the August 1958 issue of *House and Home*, and was the scene of a color motion picture made by the American Telephone and Telegraph Co., which had installed nine color telephones in the house. The 12½-minute film will be available next month throughout the nation. Many of the rooms, which were decorated by *Good Housekeeping*, are being reproduced and featured by many department stores.

Both all-gas homes have been widely publicized through radio, television and the mail, and both promotions are viewed by industry executives as a great boost to the idea of living with gas.

Greeley Gas builds first all-gas home in Colorado

Colorado's first all-gas home, equipped with the latest gas appliances and gas equipment, recently attracted an estimated 2,000 visitors to an open house in Greeley.

As a result of the week end promotion, the house was sold at the builder's price of $23,500. Several other builders have expressed interest, and negotiations are underway for two more similar all-gas homes.

The handsome new custom-built home is equipped with gas appliances and gas equipment supplied and installed by Greeley Gas Co., which sponsored the event.

According to Paul L. Good, vice-president and general manager, six months of planning and cooperation with builder and gas equipment suppliers accounted in large measure for the success of the project.

Local promotion included a series of ten small-space "teaser" ads scheduled in the *Greeley Tribune* during a two-week period prior to the opening, and a full-page black and white announcement invitation the day preceding the week end. Visitors were invited to register for a new gas light to be awarded in a subsequent drawing. Registration slips also requested information about the age and condition of various gas appliances in the registrant's home. Visitors received a two-color folder showing the savings made possible by the lower operating cost of gas appliances and equipment, as compared to electric.

William Thomas, new business manager for the utility, said this is a highly successful promotion, especially for a community of modest size. "We've obtained a great many excellent leads for gas appliances and equipment, and many of these have already been converted to sales. Many of the rest look like good prospects, too," he said.

The new all-gas home offers a balanced combination of features for both indoor and outdoor living. Its 1,500 square feet of efficient floor space includes three large, airy bedrooms, bath-and-a-half, and a covered patio with built-in-Bar-B-Q and Bowser "Smog-master" gas incinerator.

In addition to a Bryant "Crystalglas" automatic gas water heater, the full basement features a compact Arkla-Servel year-round gas air conditioning unit which will furnish both winter heating and summer cooling for the entire house. The gas light installed in the front yard is similar to the model offered in the drawing, and is also produced by Arkla Air Conditioning Corp.

The cheerful kitchen and laundry area represents the last word in efficiency and convenience. It includes an ultra-modern, fully automatic RCA Whirlpool built-in gas oven and built-in surface range unit; RCA Whirlpool "Ice Magic" gas refrigerator with automatic ice-cube maker; RCA Whirlpool automatic gas combination washer-dryer, plus RCA Whirlpool automatic dishwasher, and garbage disposer. The spacious Imperial Fruitwood cabinets were also manufactured by RCA Whirlpool.

Greeley Gas Co. personnel conducting visitors through the All-Gas Home explained to visitors that all the gas appliances and equipment may be included in any floor plans.

On 60th birthday, East Ohio Gas looks to bright future

THE East Ohio Gas Co., which observed its 60th anniversary on Sept. 8, is looking forward to a warm financial future. Robert W. Ramsdell, president, cites three principal reasons for the glow in his firm's future:

1. Results of a private research organization study show that East Ohio will sell 115 billion cubic feet more gas in 1967 than it did in 1957, indicating a sales increase of 50 per cent. In anticipation of this expanded market, the company is currently planning to spend more than $250 million on additional facilities.

2. With present and future automated equipment, East Ohio will be able to increase its operating efficiency and volume. Already highly automatic, East Ohio has its eye on such future developments as equipment that will automatically determine pressure throughout its vast network of lines.

3. To service a growing market, known reserves of natural gas are greater than they have ever been. Current figures indicate a supply of 249 trillion cubic feet, enough for 23 years.

East Ohio's per-share earnings have increased steadily from $2.06 in 1953, $2.67 in 1954, $2.86 in 1955, and $3.33 in 1956. For the fiscal year ended Dec. 31, 1957, per-share earnings reached $3.39. Dividends have also increased.

In this growth, East Ohio has played a major role since it was founded on Sept. 8, 1898, to market natural gas produced in West Virginia.

Discussing the early days of the company Mr. Ramsdell observed: "It proved to be quite an experiment. For one thing, nobody had any real evidence that there would actually be a market for natural gas. Nevertheless, a 10-inch, 93-mile pipeline was laid and we were in business."

The end of its first year saw East Ohio with slightly under 4,000 customers. The "experiment," as Mr. Ramsdell put it, proved out. By the end of 1908, its tenth anniversary, East Ohio boasted 115,000 customers.

In the next decade, the number of customers doubled, as it did again in the 1918-28 period. Expansion continued during the depression years and by 1938, customers in 67 communities numbered more than 500,000.

Going into its 60th year, East Ohio services 167 communities and has more than 750,000 customers.

Eighty-nine per cent of the homes in the firm's service area heat with gas; 95 per cent have gas-fired water heaters, and more than 81 per cent are cooking with gas.

East Ohio has outgrown the home it has occupied since 1916. Currently construction crews are at work on the company's future residence, the 21-story East Ohio building.

Textile symposium

(Continued from page 32)

be produced which best fits these principles within the realm of practical limitations," he said.

D. A. Colker, vice-president, National Drying Machinery Co., Philadelphia, described pieces of processing equipment made by his company in which gas fuel was used in both direct and indirect applications to do a variety of processing and finishing operations.

Concluding the first day's proceedings was an address by Dr. Edward R. Murray, director of instruction, School of Textiles, State College of Agriculture and Engineering, Raleigh, N. C. His subject was, "What the Textile School Can Contribute." Dr. Murray said, "As most of you realize, the functions of most textile schools have changed markedly in the past 20 years. This applies to both educational and research facilities; textile schools are better staffed and better equipped today than ever before. Industry has been advancing rapidly since the end of World War II, and the productivity of both people and machines has been increasing steadily. Research and education in the textile schools have kept pace with the times; indeed, they have contributed in many instances to technological advances in the industry."

On research, he continued, "Many mills, even if they wanted to, can hardly afford the continuing expense of a substantial research staff and a laboratory. The small organization can participate in textile school research cooperatively, much as the farmer supports agricultural research at practically every state college in the country. It is still too early to predict the ultimate level of research in the textile schools of the nation, but it seems safe to assume that it will at least double within the next ten years. This, it seems to us, will be a major contribution to the future of the industry."

The Tuesday morning session was opened with a talk by John Sellors, Jr., sales manager, Bryant Industrial Products Corp., Cleveland, entitled "Textiles, Air and Gas." Mr. Sellors described gas burners and combustion systems available for the application of heat in textile processing. He said the best way to secure the proper heat application was to consult the local gas company engineer.

"Profits Through Research," was the subject of Charles H. Rutledge, product information manager, Textile Fibers Department, E. I. du Pont de Nemours & Co., Inc. Mr. Rutledge stated that research can develop anything but has to be practical to be of any use. Research alone is not a guarantee of results or profits, he said, yet it is the life-blood of industrial existence.

He cited examples of research which have resulted in drastic industrial changes, one of which was Kettering's research and development of the electric automobile starter which put the Model T out of existence. He also stated that many research projects in his company had resulted in nothing, but once in a while a "nylon" comes along to make everything worth while. Business could not progress without research, he said, and he believes that if the textile industry is to keep pace with other industries, much more research and development must be accomplished.

On this same theme, Robert C. LeMay, contract sales, research and engineering, Selas Corp. of America, pointed out how research in other industries has achieved results that reduced production costs, made for a better product, increased production, and in many instances had accomplished all three.

Mr. LeMay implored his listeners to get into research. "Learn where there is better textile processing equipment available, and keep ahead of other world textile producers who are continually coming to this country for new ideas and equipment which together with their own research has put them ahead of us in many segments of the textile industry," he stated.

The final speaker was John G. Hopping, vice-president, Piedmont Natural Gas Co. Mr. Hopping reviewed what his company had accomplished in changing over many textile establishments to gas fuel in the past few years. He recited some of the advantages that could be gained from this conversion to natural gas fuel especially in operating costs.

Magazine describes use of gas at Air Force Academy

This month marks the opening of the new United States Air Force Academy in Colorado Springs, Colo. Ultra-modern in every detail, the facilities for the nearly 2,500 cadets reflect the latest thinking in all phases.

Aside from functionally designed buildings for academy activities and cadet living quarters, the food facilities are the result of the cooperative efforts of leading equipment manufacturers, kitchen planning experts and a host of other specialists in this field to provide the finest and most efficient mass feeding operation. Gas equipment was selected for the many attributes of natural gas fuel for all cooking, roasting, broiling and other requirements in the kitchen.

A description of these facilities forms only a part of the over-all Academy story which is set forth in a 40-page section of the October issue of *Institutions* Magazine.

All commercial gas men should have an opportunity of looking at this comprehensive portrayal of our newest service academy.

Zinder Report

(Continued from page 22)

statistical data taken from a large number of family dwellings. It would be quite proper to assume that the energy consumption for any service in a particular residence is more or less than the averages shown in the Zinder Report.

When a different gas or electric consumption is assumed, the corresponding electric or gas consumption should be adjusted in accordance with the energy ratios shown. In other words, if the estimated gas consumption for cooking is more than 9.6 therms, then the electricity would be proportionately higher than 4.6 therms.

Throughout the Zinder Report many references are made to "energy ratios." This expression is commonly used by engineers, but it may be confusing to sales

personnel. When we say the energy ratio is 2.08 for comparing gas and electric cooking, we mean that it takes 2.08 times as many Btu's of gas to do the same cooking job as would be required to do it with electricity. This may sound alarming at first, but let us make some calculations.

One Mcf (1,000,000 Btu) gives the same heat input to an appliance as 293 Kwh of electricity (1 Kwh = 3,413 Btu). Thus, if gas cost 75 cents per Mcf, the equivalent electric input, at 2 cents per Kwh, would cost $5.86. But, our data shows that the energy ratio is 2.08. This reduces the electrical energy required to 293 Kwh ÷ 2.08 = 140 Kwh. At 2 cents per Kwh the electricity cost is $2.80 compared to the 75 cents for gas.

Energy ratios are given in the text of the report for other appliances. The following table converts these ratios into equivalents which can be used by sales personnel in their daily contacts. This table is developed from the common denominators shown at the bottom of page 5 of the Zinder Report.

	Kwh Electricity Equal to One Mcf Natural Gas	Mcf Natural Gas Equal to 100 Kwh Electricity
Cooking	141	.711
Water Heating	176	.568
Refrigeration	28	3.58
Clothes Drying	262	.382
Heating*	107	.935
Air Conditioning†	75	1.333

* Comparing standard gas furnace heating installation with electric heat pump.

† Comparing gas absorption type package air conditioner with conventional air cooled electric unit.

Most of the energy ratios used in the Zinder Report were developed from statistical data by comparing gas and electric consumptions for the several residential uses in large numbers of living units. In the past 20 years many laboratory tests have been run to determine energy ratios under closely controlled operating conditions. It is more than interesting to note that the Zinder data compares very closely with that already determined by several reputable laboratories.

Chart 2 on page 12 is perhaps the most valuable one in the report. It shows the break-even rates for gas and electricity for three combinations of electric and gas energy uses in the home. There are many references to diversity factors and coincidental demands in the Zinder Report. Diversity and demand factors must be considered in multiple housing installations where the energy is purchased through single meters for a number of living units. The billing demand for one residence or living unit, however, is affected only by the appliances in that particular dwelling. Chart 2 includes a diversity factor for multiple housing units, and this should make the comparisons very conservative for single residences.

The relative costs for maintenance and repair of gas and electric appliances are discussed on page 15. Chart 3 on page 17 gives data for making detailed energy requirement calculations for cooking and water heating in homes of different sizes. Information on heating consumption is shown in chart 4 on page 19. Clothes dryer and refrigerator energy requirements are compared on pages 30 and 23, respectively. Air Conditioners and heat pumps are discussed on pages 27 and 28.

A factor in our competitive race for the heating load is the economics of insulation. The Zinder Report gives an energy ratio of 2.73 for comparing a conventional gas furnace with an electric heat pump. This means that one Mcf of natural gas for heating will do the same work as approximately 107 Kwh. When natural gas sells for 75 cents per Mcf and electricity sells for 1 cent per Kwh, it does not take much insulation to reduce the heating requirements to a point where the operating costs are approximately equal.

All this means that we must now sell our service more aggressively than ever. This can only be accomplished by arming ourselves with every available tool. We must understand all phases of our business thoroughly and its relation to the competition. We must not be lulled by the false security of economic advantages because some of these differences are diminishing at an uncomfortable rate. Neither must we assume the situation is hopeless because of this approaching problem.

Several years ago when the electric industry leaders decided to go after our cooking, heating and water heating business, they did not abandon the idea because they found that electric appliances cost more to operate than corresponding gas appliances. The Zinder Report has gained considerably in stature since its publication in late 1957. It is the only such report in existence today. It can be a valuable aid to the management, rate and utilization departments as well as all of our sales personnel.

During the past year numerous articles have been written to stimulate gas utility interest in the air conditioning load. No attempt will be made here to repeat all of the good reasons why this is essential to our business. We should not forget, however, that the cooking, heating and water heating loads must be sold and kept intact if we expect to sell the air conditioning load.

The Zinder Report can help do this job, as well as help to get the air conditioning load, too.

IGT scholarships

(Continued from page 33)

Education Foundation is participating in the program with its own funds. Last year.

The East Ohio Gas Co. enrolled a freshman from Cleveland under a Consolidated scholarship, and this year other System companies, The Peoples Natural Gas Co., New York State Natural Gas, and Hope Natural Gas Co., have joined East Ohio in offering scholarships in their operational areas. They report a total of 38 applicants.

IGT now has 23 undergraduates enrolled. The senior class consists of 11 men, of whom nine graduated in June, and two in February, 1959. Of these men, three have accepted employment in the gas industry, and two will continue on for the M.S. degree in Gas Engineering at IGT.

Junior-senior scholarship grants, with one summer of work in the gas industry, will be made to Illinois Institute of Technology students until the four-year men reach the upper classes. Four such scholarships have been granted for enrollment in September.

Industry news

Manufacturers see sales up in 1958-59

MANUFACTURERS OF GAS appliances and equipment expect their sales to show gains during the latter part of 1958 and through 1959, an industry survey revealed recently.

The study, which was managed by Edward R. Martin, director of marketing and research for the Gas Appliance Manufacturers Association, is summarized in his new "general business outlook" report. It shows that, with the exception of a few product categories, sales in the second half of 1958 will top those in the corresponding 1957 period, and that in 1959 volume will show additional gains.

"Manufacturers do not expect spectacular volume," Mr. Martin said. "Rather, the general feeling is that the trend will be moderately upward and gradually accelerated during the next 18 months."

Factors cited as a basis for optimism include the expansion programs of utilities supplying gas, the high level of housing construction, and an expectation that, in fields where uncertainties have prompted consumers to cut purchases, such actions will prove merely temporary deferments. Mr. Martin noted that 1958 sales have held up for such products as space heating and water heating equipment, while they have dipped for appliances such as ranges, refrigerators and dryers. This, he said, was because equipment sales were for new construction or nondeferrable replacements, while many consumers were inclined to let appliances "wait until next year."

"To a large extent, a company was in or out of the recession depending on its line of endeavor," Mr. Martin observed.

The consensus of reporting manufacturers revealed a belief that despite a general upward trend there will be continued wide differences in the sales performances of various types of products.

Gas range sales are expected to total 1,785,400 units in 1958, down 9.3 per cent from 1957, with a 1.9 per cent upturn to 1,820,100 for 1959. However, the built-in component of the range total is expected to continue its series of uninterrupted gains, with sales reaching 244,500 in 1959, as against 212,800 this year and 197,200 in 1957.

There is confidence that automatic gas water heaters will continue in their present strong trend, with 1958 sales totaling 2,679,700, up 5.8 per cent, and next year's total reaching 2,732,000, up 2 per cent.

For gas-fired warm-air furnaces for residential central heating, successive annual gains of 8.9 per cent and 10 per cent are expected, with 1959 sales reaching 841,700 units. Corresponding survey figures for boilers for home heating are 2 per cent, 3.5 per cent and 111,300. However, gas conversion burners are expected to be down 14.4 per cent this year from last, and an additional 2.6 per cent decrease to a 136,300 total is anticipated for 1959.

Taking the above three residential heating types together, the prospect is for sale of 1,012,500 units in 1958, up 4.2 per cent, and 1,089,300 in 1959, up 7.6 per cent.

Gas vented recessed wall heaters are listed for successive annual gains of 7.9 per cent and 3.3 per cent, with the latter bringing the 1959 sales in units to 357,600. For gas floor furnaces the survey anticipates successive decreases of 18.6 and 2.5 per cent, with the 1959 figure down to 71,600.

For other products, the survey listed anticipated percentage changes for 1959, as compared to 1958, without giving the expected figures in units. A 41 per cent gain was slated for gas incinerators, which are being produced in new smokeless-odorless models.

Next year also is expected to produce gains of 9.3 per cent for gas direct heating equipment, 19 per cent for unit heaters, 17.4 per cent for duct furnaces and 12 per cent for clothes dryers. A dip of 6.7 per cent is anticipated for commercial gas ranges.

Throughout the 1957-58 period, when recession concern was most acute, the gas industry in general never subscribed to a philosophy of "isn't business terrible," Mr. Martin recalled. He said it took a "positive position" in educating consumers and building sales and, while aware that appliance sales were off, also kept in mind the growing markets of the future.

North Shore Gas Co. celebrates golden anniversary in Illinois

A TOUR OF North Shore Gas Co. offices and plants by city officials and dignitaries in Waukegan, Ill. was one of the highlights of the company's golden anniversary celebration, which began July 16.

Officials from communities served by North Shore Gas took part in the tour, which was conducted July 31.

The visitors toured the gas company's customers accounting department, where gas bills are produced every three seconds; saw the emergency stand-by equipment and compressor station at the company's north plant; learned how gas meters are repaired and checked; and visited the company's service and street departments.

A highlight of the tour was a demonstration of the new smokeless, odorless gas incinerator. This unit was given a rugged test, as heaps of fish heads, cabbage and other garbage were reduced to ashes, without a trace of smoke or odor. Fire chiefs and sanitation and health officials were particularly interested in this demonstration because of the garbage and burning problems confronting their communities.

The theme of the celebration, occasioned by the 50th anniversary of the company's incorporation, is "50 Years of Progress."

The incorporation dates back to July 16, 1908, when the present North Shore Gas Co. received its Illinois charter and was organized as Winnetka Gas Co. The name was changed to North Shore Consolidated Gas Co. later in July, 1908, and then to North Shore Gas Co. in December, 1911.

At the time of incorporation, North Shore Gas had some 5,100 customers, who had been served previously by a series of predecessor companies since 1883. Today, North Shore Gas serves 51,708 customers, more than 10 times the number served in 1908. Residential customers are paying an average rate of 10 cents per therm, one-tenth the price paid for manufactured gas 50 years ago. North Shore Gas has offices in six communities and several other collection agencies where bills may be paid.

Robertshaw-Fulton plans new $2.5 million plant in Pennsylvania

ROBERTSHAW-FULTON Controls Co. will build a $2.5 million plant for production of thermostatic control devices for home appliances and industry near Youngwood on the Pennsylvania Turnpike. The new plant will replace present manufacturing facilities operated at Youngwood and at nearby Scottdale by the firm's Robertshaw thermostat division.

The building program will both provide room for expansion of facilities and allow the incorporation of more efficient manufacturing techniques.

Some 1,200 workers now are employed at the two plants. This figure will remain about the same when the new plant is opened in 18 months.

The facility will include a modern one-floor manufacturing building, designed for in-line production, and an adjoining office building.

Both the Youngwood plant and the Scottdale foundry will continue operating until the new building is completed.

Robertshaw-Fulton is also currently building a research center at King of Prussia, in suburban Philadelphia.

Researchers see gas power as more economical, available in future

CURRENT DEVELOPMENTS in the gas industry through research indicate a dynamic new era of energy concepts and uses, according to an article in the July-August issue of *Flame*, the Northern Illinois Gas Co. employee magazine.

Atomic energy, solar energy and devices which convert gas into electricity are some of the advances in technology currently shaping the future of energy usage, the article said.

The magazine feature was compiled from addresses by Marvin Chandler, president of Northern Illinois Gas; Dr. Martin A. Elliott, director of the Institute of Gas Technology in Chicago; and Earl L. Tornquist, NI-Gas research engineer.

The use of atomic energy for the production of inexpensive pipeline gas from coal or water is presently being studied, according to the article. It seems possible to researchers that this development could be of greater value to the gas industry than to the electric industry. Efficient gasification of huge coal reserves by other than nuclear methods shows excellent promise of converting nature's vast coal deposits, including low-grade coal now uneconomical to mine, into gas of high heating value.

The Institute of Gas Technology in Chicago has already claimed to have shown that oil-bearing rock will yield gas with excellent burning qualities. Large quantities of this resource are known and await exploitation.

Harnessing the sun's energy may be far in the future, the article stated, adding that this accomplishment would yield a new energy form, dependent upon only sunshine and water. One of the many possible solar energy uses is in decomposing water to obtain hydrogen which could be distributed as a fuel gas. Hydrogen is already being distributed in Germany, the article said.

A big problem in solar energy development is storage for night and inclement weather usage, the article said. However, if the sun's energy could be converted to a gaseous state, present economical methods of gas storage would be the answer. At the same time, this would put the new energy in a gaseous form which can be transported and distributed at one-fifth the cost of distributing an equivalent amount of electrical energy, the magazine reported. For example, a single 36-inch natural gas pipeline delivers more heat energy than can be produced by all electric generating stations in Illinois.

Present economical storage techniques are being improved, according to the article, in connection with the development of ocean transportation of low-cost natural gas from enormous foreign reserves. Gas in a liquid state could be stored in 1/600th of the space required in a gaseous form.

New uses promised include efficient reduction of iron ore into elemental iron through chemical usage of gas, and improved gas turbines for power purposes.

Well-proved, year-round gas air conditioning units have been on the market for some time and others will be available in the near future. Current research is making them even more economical and durable.

Fuel cells, which directly convert gas into electricity through a chemical reaction of gas and air more than twice as efficiently as the conventional steam power plant, have been developed to operate mobile radar sets, according to *Flame*. Modifications of the cell for home use are being studied.

Thus, the day may come when an underground gas pipe will bring all the energy needed by the home, stated the article. In addition to heating and cooling, gas would be used to operate all lights and appliances, including television, radios, clocks, vacuum cleaners, and the like.

Quebec Natural Gas issues financial report for first 14 months

A COMBINATION OF organization, construction, and development projects said to be unlike any ever faced by a gas operating utility in the United States or Canada are reviewed in the first annual report to stockholders of Quebec Natural Gas Corp. The report covers the 14-month period from the time the company began business on April 25, 1957, to the close of its fiscal year, June 30, 1958.

During this period, Quebec Natural staffed and trained a force of 1,255 employees; built a large-diameter steel pipeline 34 miles across Montreal Island to supply the gas system; acquired and equipped a general office building, service centers and a retail store; made 1,300,000 conversions on customers' appliances; and organized a complete sales and dealer promotion program.

A feature in contrast to public ownership movements in the United States is that this company represents a change from a former government-operated gas facility to an investor-owned utility. The gas distribution system of the Quebec Hydro Electric Commission was acquired, together with the assets of Montreal Coke & Manufacturing Co., the manufactured gas supplier. This gas service was continued pending the arrival of natural gas last January and until conversion of the system was completed in May.

Natural gas from Alberta is expected to become available next month. An interim natural gas supply from the United States is now being received via sources in Ontario.

The company serves 243,000 customers. The franchised service area has a population of 1,600,000.

Gas sales revenues (mostly manufactured gas) for the period covered were $10,862,607. Sales of gas expressed on an equivalent 1,000 Btu natural gas basis totaled 5,049,227,000 cubic feet. Due to high manufactured gas production costs and limited capacity, restrictions had been in force for a number of years on industrial and space-heating business. All restrictions are now removed.

The first full year's natural gas operating results will not become available until the end of the company's next fiscal year on June 30, 1959.

The Provincial Electricity Board, the responsible regulatory authority, has completed hearings on the company's application for new natural gas rates, and the rate order is being awaited at this date. Gas service is presently billed on the old manufactured gas rates, adjusted for the difference in natural gas fuel value.

In commenting on the company's earnings, President Maurice Forget said, "As had been anticipated, and publicly indicated in the prospectus issued in March 1957, a net loss in income would result under prevailing operating conditions for some time. This is reflected in the operating figures for the period of this report, which show an audited excess of expenses over revenue of $1,051,219."

Approximately 88 per cent of the company's 6,000 stockholders are in Canada, with the majority in the Province of Quebec.

Gas tanks towed past Miami to San Juan

Gas storage tanks are towed through the sea past Miami en route to San Juan, Puerto Rico. The 50-foot, 30,000-gallon tanks were made by the American car and foundry division of ACF Industries for Tropical Gas Co. of Miami. They will be installed in a terminal near San Juan.

Highlights of cases before the Federal Power Commission

Bureau of Statistics, American Gas Association

Certificate cases

● **El Paso Natural Gas Co.** has been granted temporary authority to construct 76 miles of transmission pipeline, and a 10,200 horsepower compressor station at an estimated cost of $14 million. This authorization is part of an over-all project to acquire natural gas reserves in the Aneth Field area of Utah, Colorado, New Mexico and Arizona. The entire project, to be completed in four years at a cost of $24 million, includes 102 miles of field lines, a 30,600 horsepower compressor station, gasoline, fractionating and dehydration plants, and other appurtenant facilities. In another proceeding, El Paso was authorized to construct and operate 21 miles of pipeline, at a cost of $946,000, to enable it to purchase residue gas from the Santa Rosa Gas Co. in Pecos County, Texas. During the first year El Paso will receive 10 million cubic feet of gas daily, and 14 million cubic feet daily thereafter. In still another proceeding, El Paso has applied for authority to construct and operate natural gas facilities at an estimated cost of $4.8 million for the purpose of acquiring approximately 27 million cubic feet of gas daily to be purchased from Phillips Petroleum Co., in the East Maljamar and Kemnitz areas of Lea County, N. M.

● **New York State Natural Gas Corp.** was granted temporary authority to construct and operate about 30 miles of transmission line in New York state at a cost of $1.6 million for the purpose of supplying additional quantities of natural gas to Iroquois Gas Corp.

● **Permian Basin Pipeline Co.** filed an application seeking authority to construct and operate natural gas facilities designed to acquire natural gas from the Emperor Field, Winkler County, Texas. The facilities include 61 miles of lateral supply line, 11 miles of field lines and nine meter stations, estimated to cost $3.7 million.

● **Southern Natural Gas Co.** has been given temporary authority to construct natural gas facilities in Louisiana, Mississippi, Alabama, and Georgia at an estimated cost of $28.7 million. The authorization includes 224 miles of 24-inch main line loops, 86 miles of smaller diameter loop lines, 53 miles of branch line loops, and other appurtenant facilities. These facilities are part of a $64.5 million project, to be constructed over a 2½ year period, designed to increase system capacity by 380 million cubic feet daily to meet the estimated 1960-61 peak day requirements of existing customers, and also to facilitate the acquisition of additional supplies from several fields.

Rate cases

● **Natural Gas Pipeline Co. of America's** proposed wholesale natural gas rate increase has been suspended. The higher rates, amounting to $8,192,000, or 11.7 per cent on an annual basis, would affect 14 wholesale customers in Illinois, Indiana, Iowa, and Wisconsin, and are based upon acclaimed 6¼ per cent rate of return on a year end rate base, and to compensate for increased operating expenses. The suspended increase will become effective next Jan. 25, subject to refund, if the proceedings have not been concluded, and is in addition to a $1.7 million suspended increase which became effective, subject to refund, last May 22.

● In another action, FPC adopted a decision by one of its presiding examiners directing the Atlantic Seaboard Corp. to deliver up to 780 million cubic feet of gas daily to **Blue Ridge Gas Co.** of Harrisonburg, Va. The FPC exempted **Southern Union Gas Co.** from regulation under the Natural Gas Act pursuant to the terms of the Hinshaw Amendment. The number of companies to be exempted either fully or partially since enactment of the Hinshaw Amendment March 27, 1954, now stands at 117.

Summary of Independent Gas Producers Rate Filings, July 1958

	Number	Annual Amount
Tax rate increases allowed without suspension	3	$ 981
Other rate increases allowed without suspension	17	23,105
Rate increases suspended	73*	5,621,503*
Total rate increases	93*	5,645,589*
Tax rate decreases allowed without suspension	10	6,310
Other rate decreases allowed without suspension	—	—
Total rate decreases	10	6,310
Total rate filings	708†	—
Total rate filings acted on from June 7, 1954 to July 31, 1958	30,740†	—
Rate increases disposed of after suspension	12	1,238,231
Amount allowed	—	541,119
Amount disallowed	—	122,905
Amount withdrawn	—	574,207
Rate increases suspended and pending as of July 31, 1958	1,392*	$63,961,007*

* Excludes 507 increases in Louisiana tax in 206 dockets, in amount of $7,729,618.

† Excludes 624 Louisiana tax increase filings.

Projects costing $1.6 billion await FPC okay

THE natural gas industry has asked approval of more than a billion-and-a-half dollars' worth of construction projects over and above the nearly six billion dollars authorized by the Federal Power Commission since 1945.

This request is revealed in the 1958 edition of *Natural Gas Construction Data*, just published by the Gas Appliance Manufacturers Association. The study shows that applications for projects totaling $1,334,184,000 were before the commission on Jan. 1, 1958. Additional major applications amounting to $330,496,000, filed between Jan. 1 and April 30, are also detailed in this study.

The GAMA study details the individual construction projects, showing that virtually every part of the country will benefit from the increased supplies of fuel which will be made available through the gigantic expansion program. Listed in the study are 149 cities of more than 50,000 population which are scheduled to receive new or additional natural gas supplies as a result of transmission projects. These projects involved expenditures of $385,506,000 authorized by FPC during 1957.

Construction authorized in 1957 included 3,356 miles of pipeline, requiring an estimated 672,087 tons of steel line pipe. Applications pending before FPC on Jan. 1 of this year called for 12,121 miles of pipeline and an estimated 2,368,118 tons of steel.

The gas pipeline system at the end of 1957 totaled 548,820 miles. Of this total, 160,110 miles are transmission lines, 338,690 are distribution lines, and 50,020 are field and gathering lines.

Harold Massey, GAMA managing director, said the annual publication is intended to provide financial organizations, the investing public, banks, insurance companies and investment houses with detailed, up-to-date information about expansion in the natural gas industry.

The study lists the names and addresses of pipeline and utility companies which are participating in the various pipeline projects, and details the mileage, cost, line sizes, estimated steel pipe tonnage, compressor horsepower, FPC docket number and purpose of each project.

Copies of *Natural Gas Construction Data* are available at $3.00 per copy from the marketing and statistical department of the Gas Appliance Manufacturers Association, 60 East 42 Street, New York 17, N. Y.

Tappan sets sales record

SALES FOR THE Tappan Co. have reached an all time record volume, according to A. B. Ritzenthaler, vice-president in charge of sales. Sales for Tappan through August, 1958, were reported at 12 per cent ahead of 1957, the previous high year.

Congress considers home economics education throughout world

CONVENING for the first time in North America, the International Federation of Home Economics held its Ninth International Congress on Home Economics at the University of Maryland from July 28 to Aug. 2. Home economists from 56 countries attended the conference at the invitation of the American Home Economics Association and the Canadian Home Economics Association.

The theme of the congress, "Education in Home Economics Relative to the Social and Economic Conditions of Individual Countries," was considered in plenary sessions and discussion groups throughout the week-long meeting. The keynote address at the conference's opening session was delivered by General Carlos P. Romulo, Philippine Ambassador to the United States. General Romulo's topic was "The Social and Economic Problems of the World Today."

Tours held for delegates before and during the congress included trips to government agencies in Washington, D. C.; visits to Pennsylvania State University and other colleges and high schools in order to observe home economics instruction methods and facilities; a tour of the home service department of The Brooklyn Union Gas Co. in New York City; and visits to New York City health and welfare departments, food and textile laboratories, utility home service departments, and magazines and newspapers in order to observe home economists at work.

More than half of the attending delegates were from nations other than the United States. Headquarters of the parent federation are in Paris, France.

Among the members of the United States delegation were Jessie McQueen, home service counselor, American Gas Association, and Ruth Sheldon, home service director, Washington Gas Light Co.

Northern Indiana Public Service lists stock on Midwest Exchange

NORTHERN INDIANA Public Service Co. has listed its full capitalization of common stock, approximately 4,140,000 shares, exclusively on the Midwest Stock Exchange, according to James E. Day, exchange president. Trading in the stock will be permitted as soon as technical requirements are met.

So far in 1958, the common stock of the 46-year-old gas and electric company has been traded over-the-counter within a range of 39¼ bid and 48 asked.

Commenting on the decision of the company's board of directors to list the utility's stock on the Midwest Exchange, Dean H. Mitchell, company president, said, "More than 70 per cent of our 35,000 stockholders are located in the 12 states where the Midwest Stock Exchange has greater representation than does any other exchange. When the time came for our company to list on a national security exchange, it was natural for us to turn to the Midwest Stock Exchange. As an Indiana corporation serving Indiana people, we believe our stock should be listed on the exchange in the area where people know us best."

Dean Witter & Co., one of 31 Midwest member firms which served as underwriters of the company's most recent stock offering, will act as firm specialist in the stock.

Future gas air conditioner will be smaller in size, greater in capacity

SMALLER GAS air conditioning units with increased capacity will be marketed in the near future, the American Gas Association's air conditioning promotion committee has learned from leading manufacturers.

Seven manufacturers of gas air conditioning units reported on present products and research for the future, according to W. W. Selzer of the Columbia Gas System Service Corp., New York City, committee chairman.

Quieter units with increased economy and efficiency are undergoing final tests, Mr. Selzer said. Not only will they cool and dehumidify more efficiently than other types of units, but they will also purify air by ridding it of odors and germs, he stated.

Manufacturers pointed out that gas air conditioning units now on the market have been proved virtually trouble-free. They range in capacity from three tons for domestic use to several thousand tons for commercial and industrial installations.

Present at the meeting were representatives of Arkla Air Conditioning Corp., Bryant Manufacturing Co., Carrier Corp., Comfort Products, Inc., Ready-Power Co., Weatherbuster Corp., and York Corp.

Gas executive discusses U. S. economic progress at Belgian meeting

A GAS INDUSTRY executive discussed the economic development of the Northern Plains states before an audience of top European economists last month.

Randall T. Klemme, director of marketing, economic research and area development for Northern Natural Gas Co., Omaha, was one of five American economists invited by the Belgian government to address the "International Congress for Regional Economy" at Ostend and Brussels, Sept. 7-12.

The Northern economist spoke on "Private Enterprise in Regional Economic Development in the United States."

The conference, held under the auspices of the Belgian government, was designed as an international exchange of information and ideas on economic development at the regional level.

Delegates described techniques of research and planning for regional economic development and the execution of a development program. Mr. Klemme's speech on Sept. 11 dealt with the program execution phase.

A. G. A. announces new publications

STATISTICAL

- **Monthly Bulletin of Utility Gas Sales, June 1958. Free.**

NEW FREEDOM

- **Builder's Kit,** with one "directory of contractors'" form, five "order for service" forms, and one book **How To Keep Your New Home New.** $1.
- **How To Keep Your New Home New.** 60 cents.
- **Directory of Contractors' Forms.** $17.50 per 1,000; imprinted, $22.50 additional per 1,000.
- **Order for Service Forms.** $30 per 1,000; imprinted, $15 additional per 1,000.
- **All New Gas Kitchen. American Home** reprint. 9 cents.
- **House & Home** reprint. 13½ cents.
- **American Builder** reprint from 1958 all-gas section. 25 cents.
- **High, Wood & Handsome. McCall's** reprint. 5 cents.
- **A Kitchen for Bing and Kathy. Ladies' Home Journal** reprint. 7½ cents.
- **The House with a Private Apartment. Good Housekeeping** reprint. 20 cents.

Ohio Fuel opens new office

THE OHIO FUEL GAS CO. opened a new office building in Marion, Ohio, last month. The $100,000 structure will service about 13,000 customers in Marion, as well as customers in Prospect, Waldo, Caledonia, Green Camp, and Larue. Both a drive-in pay window and an inside bill collection counter will be open during regular business office hours. A night depository at the front of the building will be available to customers paying bills at other times. The new one-story building is constructed of brick and concrete block. Fully air conditioned by natural gas, it provides adequate office space, a new demonstration kitchen, and room for future expansion. The building contains 5,000 feet of floor space.

Military construction act

COPIES OF THE military construction act of 1958 are available without charge from the American Gas Association's Washington office. This act authorizes all the services' building programs. When writing for copies, ask for Public Law 85-685.

Pipe line catalog offered

A NEWLY REVISED 48-page catalog of pipe line fittings and flanges, Bulletin TT 638R, is available from Tube Turns, Louisville, Ky., a division of Chemetron Corp. Among additions to the revised catalog are full dimensional data on full-encirclement saddles, anchor forgings, gas distribution fittings, 125 pound lightweight taper-face flanges and 900-pound welding neck, slip-on and blind flanges. Allowable working pressure tables for gas transmission and distribution piping have been expanded to provide values for construction type design factors A, B, C and D. Allowable working pressures are also given for gas distribution fittings. Special pipe line fittings, such as 3R elbows, venturi reducers, pig diverter laterals, scraper bar tees and manifold fittings, are also listed in the new edition.

Ad campaign launched

ROBERTSHAW-FULTON Controls Co. has selected Mrs. America to tell all about its newest household controls in a series of advertisements. Mrs. Helen Giesse, of Cleveland, Ohio, and her three children will be featured in full page ads in *Newsweek, Fortune, Business Week* and *The Wall Street Journal*, and a double page, four-color spread in *Parents'* Magazine. Reprints of the ads will be distributed to utility executives, members of American Gas Association, appliance distributors, bankers and security analysts of major financial and brokerage houses.

Airport has gas runway lights

THE NORTH LITTLE ROCK, Ark., Municipal Airport will have the first gas runway lights in the United States. The *Arkansas Gazette* reported that the Civil Aeronautics Administration has approved the lights and was so sold on them that it plans to put them on the Oklahoma City, Okla., airport. Russellville, Ark., is due to get them soon, too, the newspaper said. The Arkansas Louisiana Gas Co. will install 50 lights 18 to 20 inches from the ground after a hangar site at the North Side Airport is leased.

Expansion joint standards

THE EXPANSION JOINT Manufacturers Association has just released a new edition of Expansion Joint Standards. Containing information concerning the design, construction, application and testing of expansion joints for piping and other services, the edition is available, at $1.00 per copy, from George P. Byrne, Jr., secretary, Expansion Joint Manufacturers Association, 53 Park Place, New York 7, N. Y.

Gas lights draw customers to restaurant

Parking lot of new restaurant on Route 35, Ocean Township, N. J., attracts attention with 24 decorative gas lanterns. The Georgian House calls the lights a good, low-cost advertising medium. Gas for cooking, water heating and the lanterns comes from New Jersey Natural Gas Co.

Five executives named to national committee

FIVE GAS INDUSTRY executives have been appointed to the Natural Resources Committee of the United States Chamber of Commerce. The committee, which has 40 members, helps to guide National Chamber policy on issues affecting coal, electric power, land management and grazing, forestry, mining, oil and gas, and water resources.

The five representatives are J. C. Happenny, vice-president, Central Illinois Public Service Co., Springfield, Ill.; N. R. Sutherland, president, Pacific Gas and Electric Co., San Francisco, Calif.; and John F. Merriam, president, Northern Natural Gas Co., Omaha, Neb., all newly appointed; and Paul V. Hayden, vice-president, The Connecticut Light and Power Co., Hartford, Conn.; and Ernest R. Mitchell, manager, Union Light, Heat and Power Co., Covington, Ky., both re-appointed.

David L. Francis, president of the Princess Elkhorn Coal Co., Huntington, W. Va., and a director of the Chamber, has been re-appointed chairman of the Natural Resources Committee.

The committee met in Albuquerque, N. M., Sept. 18-19.

Article discusses gas production regulations

THE MARCH-APRIL issue of the *Harvard Business Review* contained an article on some of the problems associated with the current efforts to develop means of regulating natural gas producers on an equitable basis.

Prepared by Otto Eckstein, assistant professor of economics at Harvard University, and based on his experience with a large oil company as a consultant on various cost allocation methods for use before the Federal Power Commission, the article discusses the problems of joint costs, the use of various allocation procedures, and the impact of these procedures upon gas prices and relative fuel usage.

Included are critical reviews of the Btu value, realization, and casinghead methods of joint cost allocations.

The article also considers the traditional rate of return and rate base type of regulation for producing companies, and suggests several alternatives.

Reprints of the article are available from A. G. A. at 50 cents each.

Rockwell offers bulletin on gas regulators

A NEW, REVISED bulletin, No. 1026, Rev. 3, covering the entire line of Rockwell service regulators has been issued by Rockwell Manufacturing Co. The bulletin describes all three Rockwell service regulators —the 107, 143 and 173—which are designed and built for domestic gas service.

A description of the "143," including three pages of performance curves, has been added to the bulletin. The "143," introduced last year, is a lightweight, internal-relief service regulator. The brochure also includes cross-sectional views of all the regulators, and outlet pressure adjustment range, capacity and dimension tables. The bulletin may be obtained by writing to Meter and Valve Division, Rockwell Manufacturing Co., 400 N. Lexington Avenue, Pittsburgh 8, Pa.

Fannon Products develops new gas fired infra-red heating process

UTILIZING a principle which is as old as the sun, in a way which is newer than atomic energy, the John J. Fannon Products Co. is out to revolutionize industrial heat processing.

After four and one-half years of research in infra-red processing, the company is starting design and production of the first gas fired infra-red industrial ovens employing the use of the patented Perfection Schwank Rayheads.

The new equipment reportedly is far less expensive to install, operate and maintain than is the widely used convection oven. It is said to do better work in a fraction of the time and is a much smaller unit. For example, a major appliance manufacturer was able to cut drying time on moisture removal to one-third and the cost of operating the oven by one-half. A home furnace manufacturer is able to dry paint on cabinets in one-fifth the time it takes a convection oven.

One company is reported to be saving itself $65,000 in building costs by junking a 528-foot convection oven and gaining the 11,000 square feet of floor space it needs by installing a 70-foot infra-red oven which will do the same job.

The new device consists of a ceramic "mat" in a housing. The mat is made up of eight small ceramic catalysts or tiles, each perforated with 200 holes to the square inch. This is called a Rayhead.

Gas is metered through an orifice, passed through an air aspirating chamber to a mixing tube, and then sent to the chamber under the mat. The air and gas mixture burn on the surface of the ceramic mat at a temperature of approximately 1,650 degrees F.

The super heated surface of the mat generates "far" infra-red rays or radiant energy which, in turn, heat objects which absorb the rays. This is the only atmospheric gas infra-red burner available. It will operate at any angle, and heat can be directed uniformly to the product being processed. In this process, gas is virtually 100 per cent efficient because of complete combustion.

The new process was developed in Germany. The patents were purchased by the Perfection-Schwank Division of the Hupp Corp. which now manufactures the Rayheads. Until recently, the process was used mainly for commercial heating purposes. Fannon, however, saw the possibilities for industrial uses, and researched the problems. The company has been licensed by Perfection-Schwank to design, assemble and sell the equipment.

John J. Fannon, president of the firm, is no newcomer to this field. He developed the efficient Fannon Quartz Tube Infra-Red Oven which operates on electricity. He is quite enthusiastic about his new gas fired oven. As an engineer, he talks about "wave lengths," "microns," "catalytic combustion," "excited molecules" and "cure by transformation." As a businessman with a revolutionary process on his hands, he says that his new gas infra-red ovens will do a better job in one-third the time it takes a convection oven. He points out that infra-red heats the object rather than the air and eliminates the air turbulence in convection ovens which carry dust particles, create surface blemishes on paint finishes and overheat plants.

He shows how metal which would take five to ten minutes to heat in a convection furnace can be heated to 1,000 degrees in one and one-half minutes with infra-red. Then he turns off the oven and places his hand on the ceramic tile which is already cool. He explains that if something goes wrong on a conveyor or if a part gets stuck, a mechanic can turn off the gas and walk right in and make the repairs. He also notes that a convection oven would take more than an hour to heat up and an hour and a half to cool off.

Mr. Fannon says that the oven can hold extremely close part temperature up to 1,000 degrees F., and that it is so mobile that it can be taken apart and moved to another part of a plant by a couple of men.

Each Rayhead is an individual unit and any number of them can be assembled to make up an oven of desired size.

Instead of heating up a large oven for a small job, the Rayheads are controlled separately, depending upon the work to be done. Gas infra-red may also be used as a booster in conjunction with convection ovens for preheating.

Mr. Fannon sees almost unlimited use for the equipment, particularly today when every industry is looking for ways to cut costs and reduce capital outlay.

Method for converting oil shale into high quality fuel gas described

A METHOD OF CONVERTING Colorado oil shale into high quality fuel gas was described at the 134th national meeting of the American Chemical Society Sept. 10 in a report by two chemical engineers of the Institute of Gas Technology, Chicago.

The method is called hydrogasification. It produces gas with a heating value of 800 Btu per cubic foot economically and efficiently, according to Eugene B. Schultz, Jr., who presented the report. This gas is in the same range as natural gases and is much higher than most manufactured gas. Dr. Henry R. Linden, research director of the institute, was co-author of the paper.

Preliminary calculations show that the process is more efficient than is shale-to-oil conversion, since it makes use of 90 to 100 per cent of the organic matter in the shale instead of only about 80 per cent, the speaker said.

The gas could be carried by existing long-distance pipelines from Colorado to the California Coast, the Pacific Northwest and the Middle West, he added.

Experiments at the institute indicate that the economic aspects of the hydrogasification process are very promising, said Mr. Schultz. It is estimated that the finished gas will cost only 30 cents per thousand cubic feet. This figure is based on the cost of mining and crushing shale containing 30 gallons of crude oil per ton. The new one-step process involves the treatment of crushed shale with hydrogen at high temperature and pressure.

The uncertain economics of present and future oil and gas production make oil shale look even more attractive as a potential fuel gas source, Mr. Schultz said. If geological factors alone are considered, he added, our natural gas supply of about 1,200 trillion cubic feet seems quite adequate. This figure is based on the assumption that there are 6,000 cubic feet of natural gas for every barrel of our estimated crude oil reserve.

Mr. Schultz stressed, however, that it may prove extremely costly to find and process these reserves, and that their development appears less appealing in the face of increased importation of low-cost foreign crude oils.

If importation of the foreign crudes is permitted without regulation, lack of economic incentive may forestall development of this country's crude oil and natural gas reserves, he said. Because of this, oil shale may gain in importance as an alternate source of pipeline gas, particularly in view of its large and well proven reserves.

Recent figures show about 1,260 billion barrels of oil contained in the Colorado oil shale deposits. This compares with an estimated 250 billion barrels expected from domestic crude oil recovery. The shale reserves would net about 6,000 trillion cubic feet of pipeline gas, using the institute's process, Mr. Schultz estimated.

Ohio fairs show gas kitchen-trailer during fall

VISITORS to northeastern Ohio county fairs this fall will have an opportunity to see a new gas kitchen-trailer display. The "Kitchen Caravan," a 35-foot house trailer, will display National built-in gas ranges and model Scheirich and Wood-Mode kitchens. Featuring a king-size National 30-inch built-in gas oven, the display also includes a four burner cluster of gas top burners.

The cluster is complete with a burner-with-a-brain, the thermostatically controlled top burner. The walls of the trailer are lined with samples of woods and accessories for built-in kitchens.

CGA treasurer named

A. C. LAUGHARNE has been named treasurer of the Canadian Gas Association. Mr. Laugharne's background includes accounting experience with the United Fruit Co. and Aluminum Goods, Ltd. He is a member of the Certified General Accountants Association of Ontario.

Aggressiveness, air conditioning sales potential boost gas industry

AGGRESSIVE SELLING and the advantages of a tremendous unused capacity for air conditioning sales in the summer months is carrying the gas industry to new heights, Clare H. Zachry, president of Southern Union Gas Co., said recently.

"Gas utilities have taken the offensive in sales promotion and the producers and pipelines have joined with distributors in the effort to increase the utilization of natural gas," he told a luncheon meeting of the New York Security Analysts.

Referring to the growing but relatively new field of air conditioning in the gas industry, Mr. Zachry said:

"In the summertime the gas industry already has the gas available, as well as the idle facilities—from the bottom of the well to the customers' premises—whereas I am advised that in an area where the electric company already has summer peaks, it costs the electric company $250 to $400 in new facilities, even to connect one three-quarter ton window cooling unit.

"This situation looks like a 'natural' for the gas industry."

The former President of the American Gas Association said sales of gas to ultimate consumers amounted to $1.9 billion in 1950. Last year this gross revenue exceeded $4 billion.

Referring to his own company, he said that as of June 30 Southern Union was serving, directly or indirectly, 312,616 customers—an increase of better than 122,000 since 1950.

Southern Union, he added, serves 66 communities in the southwestern states of Texas, New Mexico, Arizona and Colorado, "a geographical spread that provides both burdens and benefits."

"From Port Arthur, Texas, on the east, to Kingman, Ariz., on the west, it is more than 1,200 miles," Mr. Zachry said in outlining Southern Union's service area, "and from Galveston on the Gulf Coast to Durango, Colo., in the north, it is nearly 600 miles and a change of altitude of about 7,000 feet.

"At times during the year some of our customers will be burning gas to warm their homes, while on the same day other customers will be using gas to cool their homes. There is broad economic diversification among these communities."

To keep pace with the growth in the company's service area and the demand for increasing quantities of natural gas, Southern Union's construction budget for 1958 totals about $14 million, Mr. Zachry said.

Approximately $10 million will be used for improvement and extension of facilities directly related to transportation and distribution of natural gas, he added, and the balance of about $4 million for oil and gas exploration and development.

"From January of last year to date," he said,"the company drilled 108 wells, of which 63 were gas wells, 27 oil wells and 18 dry holes."

Mr. Zachry said that among the reasons "Southern Union stock is well regarded" is the favorable record of its drilling programs. He said of the growth potential of his company's service area:

"Although the currently depressed condition of the oil industry recently has affected the local economy in certain areas, there is little indication in the Southwest of the general recession in business activity prevalent in certain parts of the country this past year or so. Indexes of business activity in the communities served by Southern Union continue to climb."

What about supplies of natural gas for the future?

The United States Bureau of Mines, he said, puts the total available supply of natural gas from presently proved reserves and from future discoveries in the country at 850 trillion cubic feet or more. Other authorities, after a long-range study of gas reserves, place the future at 1.2 quadrillion cubic feet. These forecasts are in contrast with proven, recoverable resources of 246 trillion cubic feet in the U.S. at the start of 1958.

He added that the full and ready availability of these tremendous gas reserves to the millions of Americans dependent upon them in their daily living "requires not only the maintenance of the free enterprise system in our country, but also an enlightened Congress and judiciary to see that unnecessary and burdensome restrictions and regulations of the industry, and particularly the independent producer, are kept to a minimum.

"To illustrate what I mean," Mr. Zachry said, "there were 4,000 less wells drilled in this country in the first eight months of 1958 than in the same period in 1957, and 7,000 less than in 1956.

"I'm not expert enough to say how much of this drilling was deferred on account of the 'Phillips decision' (a Supreme Court decision in 1954 which brought producers who sell gas for resale in interstate commerce under jurisdiction of the Federal Power Commission). But I am sure that we would all agree that the uncertainty and confusion which has followed that decision has played some part."

A. G. A. honors Hope Natural Gas employees

HOPE NATURAL GAS CO. employees of the Grantsville main line division and Jones compressor station were honored in August at a dinner in Grantsville, W. Va., in recognition of their outstanding safety records. Each group recorded more than one million man-hours of work without a disabling injury and earned a safety merit award certificate, awarded by A. G. A.

From Aug. 1, 1946, to May 1, 1958, employees of the Grantsville main line division worked 1,024,363 man-hours, and employees of Jones compressor station worked 1,066,164 man-hours, without a lost-time accident.

Employee Relations Director Frank M. Croghan presented a safety merit award certificate to Foreman Clarence A. Fetty, representing the Grantsville main line division employees, and to Chief Engineer Isaac Davis, representing the Jones compressor station employees.

Safety Director Charles T. Cummings was master of ceremonies. Entertainment was provided by Clyde R. Powell, public relations director for the Lehigh Safety Shoe Co., and a nationally known magician and hypnotist. The theme for Mr. Powell's part of the program was "Don't Bet Your Life."

Tidewater Natural, Flagg and Co. sign contract

Peter Flagg (l.), president, C. N. Flagg and Co., Meriden, Conn., and Charlotte, N. C., and C. B. Ewart, president, Tidewater Natural Gas Co., Wilmington, N. C., sign a contract in New York for the installation of 200 miles of lateral and city distribution pipelines to introduce natural gas to a five-city region in eastern North Carolina. The project is expected to cost $3,500,000

Glenn W. Clark elected president of INGAA at annual convention

Glenn W. Clark

GLENN W. CLARK, president, Mississippi River Fuel Corp., was elected president of the Independent Natural Gas Association of America at its annual convention Sept. 14-16 in New Orleans. More than 400 attended.

Mr. Clark, first vice-president of INGAA the past year and a member of the board of directors the past several years, succeeds J. J. Hedrick, president, The Peoples Gas Light and Coke Co.

W. E. Mueller, president, Colorado Interstate Gas Co., was elected first vice-president, and W. M. Elmer, president, Texas Gas Transmission Corp., was elected second vice-president. Re-elected treasurer was Fred W. Peters, vice-president, secretary and treasurer, Oklahoma Natural Gas Co.

Dean H. Mitchell, president, Northern Indiana Public Service Co., and chairman of the American Gas Association Television Committee, addressed the joint committee and subcommittee luncheon on Monday.

Mr. Mitchell, a past president of A. G. A., cited the stature and prestige associated with the gas industry's television program *Playhouse 90*. He said the weekly audience of 13 million homes makes it one of the most popular programs in America, and pointed out that the industry's television dollars are being invested more efficiently—due to this large audience—than the average network program.

For those who might feel that the $3,220,000—cost of continuing the program for 12 months—is too great for the industry, he reminded INGAA delegates that the electric manufacturers are sponsoring ten times more air time than the gas industry does in television.

He called on pipeline companies to re-evaluate their responsibility in the matter of sharing the cost of the program and declared "the need of the industry segments to work together to create greater public understanding has often been apparent. Most of our leaders are now convinced that there is an urgent need for publicizing gas and the gas industry jointly and more vigorously at a national level."

In another major address, Lester T. Potter, president, Lone Star Gas Co., invited INGAA members to "tackle tomorrow together." Delivering a speech prepared by A. G. A. President Robert W. Otto, chairman, Laclede Gas Co., who was attending the International Gas Union in Rome, Mr. Potter said the senior executives of the production, transmission and manufacturing segments should get together in a drive for mutual understanding to induce others to build and support a united front that would guarantee our future.

"Instead of approaching problems purely as pipeliners or distributors or producers, we should be tackling them together as gas industry teammates," he said. "When a problem confronts any of our segments, it's an industry problem, for a blow dealt to any portion of the industry is eventually felt by all of us," he stated.

Mr. Potter said he saw a bright future for all segments of the industry and that he is confident that "our progress so far will be totally eclipsed by what we will accomplish in the years ahead."

He added that progress is not going to be achieved easily. "Some very tough problems confront us," he said, adding, "They are not tomorrow's problems. They are all around us today. Their solution requires greater industry-wide cooperation and more vigorous united action than we have ever had before."

In the "Annual Report to Association Members," President Hedrick recommended that INGAA members continue "with a unified and firm determination" to press for Congressional action upon legislation such as the Harris bill to relieve independent producers of "utility-type regulation."

Mr. Hedrick expressed confidence that the Supreme Court would upset the circuit court opinion in the so-called Memphis case, dealing with the authority of the FPC to grant rate increases, but said that the legal committee of INGAA had been instructed to draft proposed legislation which would "correct this situation in the unlikely event of an affirmance of Memphis by the Supreme Court."

Panel Discussion held

Four speakers representing the producers, transporters, distributors, and appliance manufacturers joined in a panel discussion on "Industry-Wide Promotion of the Use of Natural Gas."

Representing the producers was John E. Swearingen, president, Standard Oil Co. of Indiana. Mr. Swearingen said the producer sees natural gas as an important yet secondary part of his oil and gas producing business, and that the enormous job ahead can be done only if gas producers are willing to look for gas. "The Supreme Court may have decided producers are to be regulated, but neither they nor the FPC can force producers to explore for gas if they don't volunteer to do so," he said, adding, "The big problem of our industry is to increase supplies by restoring incentives for producers to search for gas. Either this must be done by new legislation, or the FPC must promptly issue reasonable regulations under existing legislation."

Paul Kayser, president, El Paso Natural Gas Co., spoke for the transporters in a paper read for him. Mr. Kayser discussed the principles under which a pipe line must operate to maintain a dependable service and supply the increasing demands of an expanding economy. "This kind of service is the foundation for the promotion of the sale of natural gas," he said.

"As in all sales promotion, we must be effective at the retail sales level," he said. "For this reason, it is the primary obligation of the distributor to lead in such campaigns, but the pipe line should join in such efforts and bear part of the costs involved," he stated.

He said the pipe line should lead in general institutional or industry advertising. Included in this is area advertising designed to attract population and industry to the areas served by the pipe line, he explained.

"In addition," he said, "the pipe line should lead in various projects to improve established uses of gas and to promote new uses."

Representing the distributors was Lester T. Potter, president, Lone Star Gas Co. Mr. Potter said that there will never be another time so favorable for promotion in the gas industry as today and the immediate future.

He listed three reasons for this statement: (1) because the gas industry is more universal in our country and is more homogeneous within itself at this time than ever before; (2) because our industry associations are more effective in carrying out their purposes than ever before in history, and (3) because the natural gas industry is better fortified with appliance manufacturers than ever before.

"We must proceed on the theory that if we do not build and maintain the stature and integrity of our industry, we cannot expect to successfully promote the use of our service on any sound basis," he said.

Mr. Potter added that the distributor is the front line force in promotion. However, he said, this responsibility does not rest on that segment alone. "All of us have the responsibility of promoting the use of natural gas," he emphasized, "as we all must be interested in moving our product and extending our service."

D. W. Weir, executive vice-president, Arkansas Louisiana Gas Co., represented the appliance manufacturers. He said the electric industry has proven that merely having a good product and providing good service is not enough. "We have had to learn the importance of promoting the use of gas," he said. The success of the electric industry in recent years bears this out, he added.

He said that when we talk about promoting the use of gas, we mean the domestic, commercial and industrial applications—heating, cooking, cooling, clothes drying, incineration, heating water, and even gas lighting, as well as all the commercial and industrial plants and methods which employ gas.

He said industry-wide promotion should embrace these points:

1. Support of manufacturers who will devote themselves exclusively to the production of gas burning equipment.

2. More emphasis on the up-grading of gas as the truly effective fuel.

3. Development of industry financial stakes in selected gas appliance manufacturers, or even the underwriting of plants which will manufacture all types of gas burning appliances.

4. Concentration of research efforts in two or three laboratories dedicated to the improvement of existing appliances and the development of new gas appliances.

5. Overcome our self-righteousness and get out and promote our product.

W. T. Potter elected president of New Jersey Gas Association

WILLIAM T. POTTER, assistant treasurer, Elizabethtown Consolidated Gas Co., was elected president of the New Jersey Gas Association at its 43rd annual meeting in Asbury Park. Mr. Potter, first vice-president the past year, succeeded Theodore H. Kendall, president, South Jersey Gas Co.

Other officers named are: first vice-president, Frank C. Pesveyc, residential sales manager, Public Service Electric and Gas Co.; second vice-president, W. Daniel Williams, vice-president i/c sales, New Jersey Natural Gas Co.; and re-elected secretary-treasurer, Ralph E. Martin, administrative assistant, New Jersey Natural Gas Co.

More than 400 members attended the Sept. 5 meeting. Following the president's report by Mr. Kendall, who presided, the group heard R. M. Marberry, sales manager—gas utility division, Whirlpool Corp., speak on "Where Do We Go From Here With the Gas Refrigerator?" He answered this saying that Whirlpool is going to continue its effort to put the gas refrigerator in homes across the nation, a project it first undertook last Jan. 3. He advised gas utilities to make use of all merchandising service offered in this sales drive, and said the gas refrigerator has a great sales potential.

Mr. Marberry praised the American Gas Association for the aid given Whirlpool in promoting the gas refrigerator. "The entire industry is fortunate to have such a topflight Association," he said.

In an informative talk on noise abatement, Elsworth H. Hultz, Smith-Meeker Engineering Co., asked the question, "How loud is a loud noise?" Speaking on "Noise Abatement Practices and Problems—Natural Gas Metering Stations," Mr. Hultz said it was the duty of gas companies to control noise as much as possible, and cited the public relations value gained from adequate noise control. He explained how this can be done and cited some "before and after" examples of noise problems via recordings.

Named to lead the New Jersey Gas Association during the coming year are the officers shown above. They were elected during the 43rd annual meeting of that group Sept. 5 in Asbury Park. They are (l. to r.): Ralph E. Martin, secretary-treasurer; W. T. Potter, president; Frank C. Pesveyc, first vice-president; and W. Daniel Williams, second vice-president. More than 400 attended the meeting

The final morning speaker was S. F. Wikstrom, director of the PAR Plan, American Gas Association. Mr. Wikstrom's topic was "Formula for Sales." He outlined A. G. A.'s promotional and advertising program, and gave delegates a preview of the 1958 White Christmas promotion which will star Fred MacMurray and June Haver. Films of their *Playhouse 90* commercials were shown as was a short film skit by the two stars prepared especially to introduce the White Christmas campaign to the gas industry.

At the noon luncheon, Donald C. Luce, president, Public Service Electric and Gas Co., gave his view of "The Portrait of a Gas Man."

Maryland Utilities Association holds 34th annual conference

THE MARYLAND UTILITIES Association held its 34th fall conference Sept. 12-13 in Virginia Beach, Va.

The session was called to order by Association President Robert C. Carder, manager for the Potomac Edison Co., Hagerstown, Md. First Vice-President Austin E. Penn, vice-president, Baltimore Gas and Electric Co., presided.

Speakers and their subjects were Geoffrey N. Calvert, vice-president, Alexander & Alexander, director-consultant, actuarial division, "Benefit Plans: Yesterday and Today"; R. Karl Honaman, director of publications, Bell Telephone Laboratories, "The Forward Look in Communications"; Dr. Raymond Rodgers, Graduate School of Business Administration, New York University, "The Current Economic Situation and Outlook"; and Harry Witt, manager, public utilities department, Kidder, Peabody & Co., "Financing Public Utilities."

More than 400 members and guests of the Association attended the annual convention.

East Ohio Gas explains when 'inexpensive' is not 'cheap'

THE EAST OHIO GAS CO. is out to prove, simply, that a product can be inexpensive and still have "carriage trade" appeal.

East Ohio is going after the customer it believes is often forgotten by gas companies —the person planning to build a higher cost home. The vehicle of the attack is a 20-page booklet resembling the women's magazine, *Mademoiselle*.

According to East Ohio President Robert W. Ramsdell, there is strong feeling in the company that the gas industry has been selling the economy of gas, while neglecting the other advantages of the product.

"I'm afraid," he points out, "that we have managed to sell the idea that our fuel is inexpensive to too great an extent. There are indications that when persons arrive in the higher income areas they feel that they can—even ought to—pay more for a service. Too often the words, 'inexpensive' and 'cheap' become synonymous," the East Ohio president noted.

The theme of the 9½-by-12½-inch booklet is that gas is modern. Little emphasis is placed on cost.

A limited amount of copy is interwoven guardedly among 31 half-tones and four-color photographs, many of which were borrowed from *Mademoiselle*. The editorial copy, make-up, attire of the models in the illustrations, and the kitchens depicted combine to maintain the "modern" theme.

The burner-with-a-brain, the thermostatically controlled top burner, gets first billing in the argumentative copy that "gas is modern." Augmenting the "brain" are the automatic oven, griddle-in-the-middle, oven meat thermometer, the rotisserie, and matchless lighting.

"We're going to approach the family formulating plans for a home, the architect and builder who specialize in designing and building better houses," John S. McElwain, East Ohio's general sales manager, explains.

R. R. Blackburn elected PCGA president at 65th annual convention

R. R. Blackburn

ROBERT R. BLACKBURN, senior vice-president of the Southern California Gas Co., was elected president of the Pacific Coast Gas Association at the group's 65th annual convention, Sept. 3-5, in Portland, Ore. Mr. Blackburn, who was PCGA vice-president last year, succeeds Charles H. Gueffroy, president of Northwest Natural Gas Co.

Other new officers are: first vice-president, Walter T. Lucking, president, Arizona Public Service Co.; second vice-president, H. G. Dillin, executive vice-president, San Diego Gas & Electric Co.; and treasurer, Harry McGann, auditor division accounts, Pacific Gas & Electric Co.

The election of Mr. Dillin as second vice-president is a first for PCGA. In past years only one vice-president has been named. Recently, however, the PCGA board of directors approved a change in the articles and bylaws which established the office of second vice-president and increased the number of directors from eight to 14.

Mr. Gueffroy becomes a director for a one-year term. Directors named for two year terms are: Lloyd E. Cooper, vice-president, California-Pacific Utilities Co.; J. Luther Davis, executive vice-president, Tucson Gas, Electric Light and Power Co.; Ralph F. Gibson, president, Intermountain Gas Co.; Bernard T. Poor, executive vice-president, Washington Natural Gas Co.; J. F. Ray, vice-president, General Controls Co.; Shermer L. Sibley, vice-president and general manager, Pacific Gas & Electric Co.; and W. T. Nightingale, president, Mountain Fuel Supply Co.

Directors elected to three year terms are: H. G. Laub, president, Southwest Gas Corp.; Stanley F. Skafte, director of engineering, Utility Appliance Corp.; and J. C. Stopford, president, Honolulu Gas Co., Ltd.

The four incumbent directors with unexpired terms are: A. R. Bailey, senior vice-president, Southern Counties Gas Co.; John L. Liecty, treasurer, Arizona Public Service Co.; Ralph J. Phillips, vice-president, San Diego Gas & Electric Co.; and H. L. Purdy, executive vice-president, British Columbia Electric Co., Ltd.

"Building a Greater West" was the convention theme. More than 600 gas utility executives and heads of gas appliance manufacturers and suppliers attended. James F. Bell, executive vice-president, Northwest Natural Gas Co., was chairman of the arrangements committee.

The convention was opened by PCGA President Gueffroy. Delegates were welcomed by Howard Morgan, Oregon public utility commissioner. Speakers at the opening session were Clifford V. Coons, president, Gas Appliance Manufacturers Association, and Howard P. Mold, manager, sales personnel department, Minneapolis-Honeywell Regulator Co.

Mr. Coons, executive vice-president of Rheem Manufacturing Co., touched on the U. S. business picture and declared the nation has reached a point of recovery after a year of recession or "confusion." He announced that the gas industry will spend $30 million in local-level advertising and promotion in the immediate future informing the public that top-of-the-line gas cooking appliances are fully automatic.

Mr. Mold emphasized the possibility for American business management to become a great force for international peace by helping to raise the "materialistic level" of peoples throughout the world while, at the same time, producing long-range returns to employees, customers and stockholders.

Conflicting ideologies breed on the lack of satisfaction at the materialistic level, he said.

The opening luncheon speaker was Howard W. Pyle, deputy assistant to President Eisenhower and former governor of Arizona. His subject was "No Time for Relaxing."

J. Theodore Wolfe, president-nominee of the American Gas Association, was the featured speaker Wednesday afternoon. He cited new records in the nation's gas industry, including the boosting of total gas revenues to $4 billion, the increase in the number of gas appliances in daily use to a hundred million, the increase in gas customers to 31 million. Mr. Wolfe, president of the Baltimore Gas and Electric Co., said that the West had been a vital factor in attaining these new marks.

He pointed to the adoption of the revised approval standard, which requires automatic ignition of all burners on the domestic gas range, as a major milestone in the continuing approval program introduced by the gas industry some 35 years ago.

Mr. Wolfe complimented the industry's PAR program as one which is hitting its target with amazing accuracy. "We only have to listen to the electric industry's remarks to realize how effective this program has been," he said.

Thursday morning speakers were Thomas H. Evans, vice-president, sales, Equitable Gas Co.; Thomas H. Lane, senior vice-president, Lennen & Newell, Inc.; and Martin Goland, vice-president and director, Southwest Research Institute.

Mr. Evans' topic was "Propupol—The Jet Fuel for Gas Utilities"; Mr. Lane spoke on the "New Era of Achievement"; and Mr. Goland addressed the group on "Research and the Look Ahead."

In coining the phrase "Propupol," Mr. Evans told how to coordinate the three important gas industry tools—promotion, public relations, and politics to provide a "jet fuel" for gas utilities. He said the three go hand-in-hand for effective operation in the gas business.

Mr. Lane told delegates that the A. G. A. PAR program has given the gas industry a much needed boost. He described the current program and future plans for promotion.

Thursday's luncheon speaker was James D. McLean, president, Hoffman Laboratories, Inc., Los Angeles. His subject was "Utility Service for Space Vehicles."

Dr. Herbert B. Dorau of New York University and L. Sanford Reis, president, Reis and Chandler, Inc., were Thursday afternoon speakers. Dr. Dorau's subject was "A Fair Return for Gas Service in an Enterprise Economy." Mr. Reis spoke on "How to Finance a Gas Company—A Practical Primer for Public Utility People."

Two speakers, Paul Kayser and Dr. O. Meredith Wilson, were on Friday morning's program. Mr. Kayser, president, El Paso Natural Gas Co., told of "The Role of Natural Gas in Area Development." Dr. Wilson, president, University of Oregon, described "The Stake of Business in Education."

PCGA publishes reference guide to gas application in building

A REFERENCE TEXT designed for architects, engineers and builders has been published by the Pacific Coast Gas Association. *A Guide to Modern Gas Application* combines in its 44 pages basic technical information and a soft-sell push for the use of gas.

Written in non-technical language, the book can be used to promote individual contact between gas companies and the people who introduce gas into communities through construction projects.

The book considers the gas kitchen and laundry, gas heating and air conditioning, water heating and swimming pools, commercial cooking equipment, and the piping and venting of gas appliances. Illustrations are incorporated throughout.

The plastic- and paper-bound book is available for $1.00 per copy from the Pacific Coast Gas Association, 870 Market Street, San Francisco, Calif. A company may have its name imprinted on the cover for $10.00 for the first 100 copies and $3.00 for each additional 100 copies.

Ed Parkes chosen Man of Month in East Texas

ED PARKES, newly elected president of the United Gas Corp., Shreveport, La., was chosen Man of the Month for August by the East Texas Chamber of Commerce. In announcing its selection, the Chamber explained that Shreveport is "more like East Texas than Louisiana" and that the area is served by the East Texas community group.

Mr. Parkes joined United Gas in 1928. He is a director of the American Gas Association and chairman of the Association's Committee on Natural Gas Reserves. He is also a director of the American Petroleum Institute, Escambia Chemical Corp., Duval Sulphur and Potash Co. and Atlas Processing Co.

Study predicts Canadian industrial boom may increase gas demands

A 30-YEAR industrial boom in Northern and Northwestern Ontario, which may mean an eightfold increase in natural gas demands, is predicted by Northern Ontario Natural Gas Co., Ltd.

A long-term survey made by the company's industrial development and research division forecasts a spiralling demand for the new fuel, within its franchised area, from homeowners, businesses and large industries.

By 1988, the study states, residential, commercial and industrial users from Kenora to Orillia may require as much as 892,000,000 cubic feet of natural gas daily. This is almost twice the reported designed capacity of 540,000,000 cubic feet daily of the Trans-Canada Pipeline from Alberta to Montreal. At present, the maximum amount of gas which the company may buy from Trans-Canada—and in turn, supply to consumers in its 34 franchised communities—is 108,000,000 cubic feet daily.

The main source of increased gas demand, according to the study, will be the North's expanding pulp and paper industry. If present growth trends continue, the industry may triple its gas demands to as much as 180,000,000 cubic feet daily, the study found. At present, the affiliated companies of Northern Ontario Natural Gas and Twin City Gas Co., Ltd. have contracted to supply more than 60,000,000 cubic feet of gas daily to 11 pulp and paper mills.

In other fields of industry, the companies anticipate a quickened tempo of industrial expansion, much of it made possible by the availability of natural gas in the area.

Usage by large industries, other than paper mills, which already have contracted to buy gas, should rise to 22,000,000 cubic feet daily, and could go even higher. At present, the affiliated companies hold contracts to supply 10,650,000 cubic feet of gas daily to large industries, including the Dupont plant at North Bay, the International Nickel Co. at Sudbury, and the Canada Malting plant at the Lakehead.

Other possible industrial projects now under active consideration might add another 40,500,000 cubic feet daily to the demand for gas in Northern and Northwestern Ontario.

A steam-generating unit planned for the Lakehead by Ontario Hydro could use 25,000,000 cubic feet of natural gas daily. The first unit is slated to go into operation in 1960. Nine other units are ultimately planned by Hydro.

A large gas load might also develop if a new process for smelting iron ore at the mine site, still under study at the Ontario Research Foundation in Toronto, proves feasible. The "jet smelter" process, which would revolutionize mining in the North by making possible the development of large deposits of low-grade iron ore, uses natural gas as an integral part of the smelting process. Each smelting unit in operation would use 200,000,000 cubic feet of natural gas daily.

Interior Department honors E. M. Frost for contributions on helium

ELLIS M. FROST, JR., who retired last year from the Bureau of Mines, has received the Department of the Interior's Distinguished Service Award and Gold Medal. Mr. Frost was chief of the engineering division of the bureau's Helium Activity. He was voted the department's highest honor in recognition of his important contributions to the technology of helium production and use since 1926.

Mr. Frost joined the bureau in 1925. A year later, he was transferred to its helium operations at Fort Worth, Texas, where government production of the lightweight nonflammable gas was in an experimental stage. At Fort Worth, and later at Amarillo, he helped to develop plant-control techniques and participated in research on the problem of extracting helium from natural gas.

Subsequently, Mr. Frost directed the bureau's research on the use of helium as a tracer to show the direction and rate of flow of gas which was reinjected into underground petroleum reservoirs either for the purpose of stimulating production or for storage. While on that project, he received an Award of Excellence and a cash award from the Department of the Interior. He also developed an improved portable apparatus for determining the helium content of natural gas.

More recently, Mr. Frost trained an engineering staff and directed the engineering design and procurement of nearly $6 million worth of special helium production and transportation equipment, supervised the completion of a $5 million addition to one of the bureau's helium plants, and began work on specifications for an additional $4.5 million worth of special equipment and structures.

Under the direction of Mr. Frost, the Helium Activity's engineering division developed a basic idea which subsequently improved low-temperature processing equipment, and saved $2 million in capital investment and $400,000 in operating costs annually.

During the years, Mr. Frost contributed to much of the original research on the hydrocarbon hydrates which form in and block natural gas transmission lines. The published reports on this subject still guide industry in controlling and eliminating such formations. The research project also resulted in the development of a patented device for determining the water content of compressed gases. Mr. Frost, co-designer of the device, earned a meritorious promotion for the invention.

The citation accompanying the Distinguished Service Award and Gold Medal cites Mr. Frost for the accomplishments which have brought "widespread recognition to himself, the Bureau of Mines, and the Department of the Interior," and commends his contributions to technical literature.

Univac data system helps to reduce costs at Arizona Public Service

THE WAY IN WHICH the Arizona Public Service Co. is using a Univac data automatic system to handle revenue accounting is described in a report published by Remington Rand Univac Division of Sperry Rand Corp.

The system is expected to pay for itself within four-and-one-half years, according to the report.

This forecast is based on a prospective reduction in unit cost per customer of 35 to 40 per cent.

The system is being used for revenue accounting, payroll, material control, vehicle accounting, plant accounting and cost distribution. The company's Univac computing center at its Phoenix headquarters is administered by a group of 42 people, 34 of whom were selected and trained within the company.

Commenting on the new system, Walter Lucking, president of Arizona Public Service Co. said, "We are convinced that through the use of our Univac system we will have a degree of management control never before realized by utility executives."

A copy of the detailed report, UC 867, can be obtained from any branch office of Remington Rand, or by writing to Remington Rand Division of Sperry Rand Corp., 315 Fourth Avenue, New York 10, N. Y.

New York State Natural Gas finds gas on Pennsylvania forest land

AFTER MANY YEARS of extensive planning and research, New York State Natural Gas Corp. has discovered gas in the Boone Mountain area of Clearfield County, Pa.

Located near Penfield, the successful wildcat well was drilled in a region previously considered by many to contain no gas.

Initial flow from the well was 1.3 million cubic feet of gas per day. Fracturing of the well increased the flow to 6.3 million cubic feet per day.

The discovery represents many years of geological study and exploration planning, a company spokesman said.

The well is located on Pennsylvania state forest land. When the well is tied into the company's system, royalties from it will be paid into the state's Oil and Gas Lease Fund. Further drilling in the area will be required to determine the importance of the pool.

Monroney retires from Colorado Oil and Gas; Tierney promoted

J. P. MONRONEY, senior vice-president, Colorado Oil and Gas Corp., Denver, retired in August. Mr. Monroney joined the organization in its founding days in 1952. Previously, he was a vice-president and Rocky Mountain general manager for Sinclair Oil and Gas Corp.

W. G. Tierney, president of Derby Refining Co., Wichita, Kan., subsidiary of Colorado Oil and Gas, has been named to replace Mr. Monroney. Mr. Tierney, who will remain president of Derby, plans to divide his time between Wichita and Denver. He will also serve as special assistant on refining and marketing to W. C. Norman, president of Colorado Oil and Gas. In his position as vice-president of the parent company, Mr. Tierney will be in charge of planning all of the company's operations in the oil industry.

J. W. Meehan, Derby vice-president, has been designated executive vice-president and general manager of the company. He has also been elected to Derby's board of directors. Mr. Meehan, who joined the company in August, 1957, will continue as president of Derby Oil Purchasing Co. and Jayhawk Pipeline Corp.

Previously, he was an executive in the crude oil supply and transportation divisions of The Pure Oil Co., Chicago.

L. M. Woodward, Derby treasurer, has been elevated to a vice-presidential post. He joined Derby in 1924.

Personal and otherwise

C. G. Cassidy named assistant to sales vice-president

CLAYTON G. CASSIDY, director of public relations and advertising of The Peoples Gas Light and Coke Co. since 1951, has been named assistant to the vice-president in charge of sales. His new responsibilities will include advertising, sales promotion and long range sales planning. He joined the company in 1933 as head of the advertising department.

Mr. Cassidy served on the original National Advertising Committee of the American Gas Association which started the Association's magazine advertising campaign in the mid-1930's. He also served for several years on the Association's old domestic copy committee, spending two years as its chairman. During 1955-56 he served as chairman of the Association's Domestic Advertising Committee.

Succeeding Mr. Cassidy as director of public relations is William R. Miner, who formerly was head of the public relations department of Needham, Louis & Brorby, Inc., advertising agency for Peoples Gas.

Muldoon, Hammer appointed to new positions in A. G. A.'s PAR Plan

KENNETH F. MULDOON has been appointed advertising manager of the American Gas Association. Leonard M. Hammer, formerly vice-president of Nelson B. Moore & Associates, Cleveland public relations agency, has been named to succeed Mr. Muldoon as promotion manager.

Mr. Muldoon served previously as manager of the Association's New Freedom Gas Home Bureau. In his new post, he succeeds Charles R. Bowen, who resigned to join the communications department of International Business Machines Corp.

Mr. Hammer served 12 years on the editorial staffs of the *Cleveland Press* and *Cleveland Plain Dealer*, after having studied at Ohio State University and Case Institute of Technology. Twice a winner of the Cleveland Newspaper Guild Award for the best newspaper story of the year, he joined Nelson B. Moore & Associates as an account executive in 1953. He later became vice-president and public relations account supervisor for the firm.

Names in the news—a roundup of promotions and appointments

UTILITY

The Peoples Natural Gas Co. has announced four personnel changes. **Paul E. Beech** has been appointed personnel director. He was formerly dealer promotion manager in Peoples' general sales office. **Louis E. Boliver** has been named to the newly created position of annuities and benefits administrator. He joined the company in 1940. **Walter Lowe,** a 24-year veteran with the company, has been promoted to dealer promotion manager. He was previously assistant manager of Peoples' Greensburg service area. **J. Malcolm Wright** has been appointed training director for Peoples. He was previously training chief and assistant manager of training and development for Merck & Co., Inc.

Arthur R. Blotter, treasurer of New York State Natural Gas Corp., has been elected a director of the company.

San Diego Gas & Electric Co. has named **David F. Curtis** claims agent. He succeeds **C. W. Fitzpatrick,** who retired last month. Mr. Curtis, who joined the company in 1940, served previously as a sales representative in the commercial lighting department.

Four staff changes have taken place at The Ohio Fuel Gas Co. **Donald R. Blosser,** personnel assistant, has been promoted to Northern Ohio personnel representative. **Robert M. Box,** Fremont district assistant office manager, has been named to replace Mr. Blosser in the company's general offices. Retiring after 37 years with the company is **Albert A. (Jake) Taylor,** group welding instructor in Mt. Vernon. He has directed welding instruction and inspection throughout Ohio Fuel territory for the past seven years. **James L. Brooks,** superintendent of motor transport, has also retired. He joined the company in 1917 and became superintendent in 1952.

Wade E. Shurtleff has been named community relations director of The East Ohio Gas Co. He was previously associate editor of the Bureau of National Affairs, Inc., which he continues to serve as a consulting editor. At East Ohio, he will supervise all public relations and community activities.

Ralph E. Mullin, president of Westpan Hydrocarbon Co., has been elected to the board of directors of Colorado Interstate Gas Co. He became president of Westpan Hydrocarbon in 1956. He is also president and director of Lotus Oil Co. and Trojan Oil and Gas Co., and vice-president and director of A. R. Jones Oil and Operating Co.

Central Illinois Light Co. has named **Herbert A. Blair** comptroller and secretary. He joined the company in 1928 and became secretary and assistant comptroller in 1956.

Benjamin H. Cooksey, Jr., has been promoted to manager of the gas measurement section of the operating department of Hope Natural Gas Co. He succeeds **Charles G. Moorhead,** who has retired. He joined Hope in 1946 and was made superintendent of gas measurement in charge of field operations in 1956.

Virginia Electric and Power Co. has appointed **Arthur L. Clark** personnel director. Mr. Clark succeeds **George E. Kidd,** vice-president for personnel, who has retired after 39 years with the company. Mr. Kidd was named vice-president in 1953. Mr. Clark joined the firm in 1928 and became personnel director in 1956.

J. S. Bullington has joined Northern Natural Gas Co. as senior industrial representative in the department of marketing, economic research and area development. He was previously director of the industrial development division of the Oklahoma State Department of Commerce and Industry.

Robert C. Kumler has resigned as advertising manager for Oklahoma Natural Gas Co. to become a vice-president of Beals Advertising Co. He had been with Oklahoma Natural for seven years.

Washington Natural Gas Co. has announced two promotions. **Avery W. Willis,**

Jr., formerly assistant director of personnel, has moved up to the newly created post of assistant to the vice-president in charge of operations. **Willis H. Cook,** previously staff assistant to the treasurer, has replaced Mr. Willis in personnel. Mr. Willis joined the firm in 1946, Mr. Cook in 1936.

Kallman J. Edleman has been named residential and commercial sales manager of Northern Ontario Natural Gas Co., Ltd. He was formerly in charge of conversion burner installations for Spokane Natural Gas Co., Ltd.

MANUFACTURER

American Meter Co., Inc., has named **Hilding V. Beck** vice-president and chief engineer. He joined American Meter in 1936 and became chief engineer in 1954. **Charles D. Mitchell** has been appointed district sales manager for the company's New England territory. He has been with the firm for 37 years.

Two appointments have been announced by the Norge division of Borg-Warner Corp. **Louis J. Bravacos** has become district manager for New England. He was formerly with Whirlpool home appliances. **Paul E. Roman** has been designated director of marketing research. Previously manager of market analysis, he joined the company in 1955.

Norbert T. Grainer, assistant to the manager of the Skokie, Ill., plant of General Controls Co., has been appointed regional manager in the Midwest. He joined the company eight years ago.

Edwin G. Harbuck has been named a regional manager for Maytag Southeastern Co. He has been associated with the firm for five and one-half years.

Walworth Co. has named **Dr. J. F. Dunn** assistant director of research. He joined the firm last year as a research engineer.

Cecil L. Kerr has been designated sales representative in the Pittsburgh sales district of Selas Corp. of America. He was formerly chief engineer-furnaces for Salem Brosius, Inc.

A. E. Carter has been elected vice-president of manufacturing for Worthington Corp. He succeeds **Leslie C. Ricketts,** who is resigning in order to devote full time to his position as group vice-president of five Worthington operating divisions in New Jersey and Massachusetts. Mr. Carter was previously with Ford Motor Co. as manager of the firm's parts plant in Rawsonville, Mich.

William Wallace Co. has announced three staff changes. **Frank Kohles** has been named general sales manager. He joined the company in 1950 and was formerly sales manager of the Metalbestos division. **Walter S. Waddington,** previously sales representative for the company's stove-pipe and roof-drainage products, has been appointed assistant sales manager of standard line sales. He joined the firm 20 years ago. **Robert A. McHugh,** formerly manager of the Southern California district for the Metalbestos division, has been elevated to assistant to the general sales manager. He joined the firm in 1950.

Keith T. Davis has become manager of gas air conditioning for Bryant Manufacturing Co. He was previously assistant to the senior vice-president of Carrier Corp. He has served on several American Gas Association committees.

The Tappan Co. has appointed **Truman B. Clark,** formerly director of engineering and assistant to the general manager, to the newly created post of works manager. Mr. Clark joined the company in 1946. **Daniel G. Meckley III,** previously assistant director of engineering, has been named to replace Mr. Clark. Mr. Meckley joined the firm earlier this year.

Howard J. Evans has been promoted to manager of engineering and research for all gas products in the meter and valve division of Rockwell Manufacturing Co. He joined the firm in 1935 and was previously chief engineer of central gas products.

OTHER

Lester T. Potter, president of Lone Star Gas Co., has been elected a director of Southland Life Insurance Co.

John T. Cunningham has joined Commonwealth Services, Inc., as consultant on public and stockholder relations. He was previously in public relations with Morey, Humm & Warwick, Inc., and Anderson & Cairns, Inc.

Five appointments to the faculty of Illinois Institute of Technology have been announced. They are **Jack C. Brown,** instructor in technical drawing; **Dr. Audrey L. Companion,** instructor in chemistry; **Dr. Fausto Ramirez,** associate professor of chemistry; **Robert R. Rogers,** instructor in business and economics; and **Lutrelle P. Wassman,** lecturer at the Institute of Design.

Shepard D. Robinson, formerly assistant to the editor of *Modern Hospital* magazine, has joined the staff of the National LP-Gas Council. He will be a staff writer for the organization, which conducts a public relations, sales promotion and advertising program for the liquefied petroleum gas industry.

Robert Brooks joins A. G. A.

UNDER A PLAN of greatly expanded facilities and services, Robert M. Brooks, 28, has been named assistant librarian at American Gas Association Headquarters. Mr. Brooks, librarian for five branches of the Brooklyn Public Library since 1956, is a native of Chapel Hill, N. C. He is a graduate of North Carolina University, where he majored in political science and library science.

Baer named PR director

STEPHEN H. BAER has been named to the newly created post of public relations director of Pacific Lighting Gas Supply Co. Mr. Baer was formerly news-publications bureau manager of Southern Counties Gas Co. which, with Southern California Gas Co. and the gas supply company, is a subsidiary of Pacific Lighting Corp. He is a member of the American Gas Association.

Crenshaw named president

KIRBY E. CRENSHAW has been elected president of Cities Service Gas Co. He succeeds Harry D. Hancock, who is retiring.

Kirby E. Crenshaw

Mr. Crenshaw has been executive vice-president since November, 1956. Mr. Hancock has been associated with the Cities Service system since 1912.

Mr. Crenshaw joined Cities Service as a junior engineer in 1930. In 1940, he became an engineer for Gas Advisers, Inc., a Cities Service subsidiary in New York. He was vice-president of Gas Advisers from 1947 to 1955, when the company merged into Cities Service Petroleum, Inc. He served as assistant manager of the natural gas department of Cities Service Petroleum until 1956. Mr. Crenshaw is also president and director of Cities Service Gas Producing Co.

PG&E names vice-president

KENNETH C. CHRISTENSEN, treasurer, Pacific Gas and Electric Co., has been elected vice-president and treasurer of the company. Mr. Christensen, a resident of San Francisco, was born in Palo Alto. He graduated from Stanford University in 1930 and joined the PG&E valuation department the following year. In 1944 he became assistant treasurer and was elected treasurer in 1952. Among his business associations Mr. Christensen is treasurer of the Pacific Coast Electrical Association and a member of the Pacific Coast Gas Association, American Economic Association, American Finance Association and American Statistical Association.

Scoutten joins U. S. council

E. F. SCOUTTEN, vice-president, personnel, for the Maytag Co., has accepted the invitation of James P. Mitchell, secretary of labor, to serve as an employer member of the Federal Advisory Council on Employment Security. His term on the council runs from July 1, 1958, to June 30, 1960.

The advisory council, which is composed of representatives of both employers and employees in equal number, and the public, advises the secretary of labor and director of the bureau of employment security on federal policies and programs for the federal-state public employment service and unemployment insurance program.

Bruce F. Willson promoted

BRUCE F. WILLSON has been appointed executive vice-president of Canadian Western Natural Gas Co., Ltd., and of Northwestern Utilities, Ltd. Mr. Willson formerly was vice-president of operations of both companies. He is presently a director of both companies. Mr. Willson is also a director of Alberta Gas Trunk Line Co., Ltd. and The Canadian Gas Association.

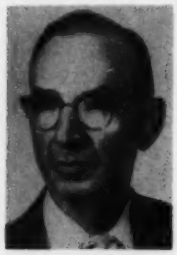
Quebec Natural Gas re-elects all officers, directors at annual meeting

THE HONORABLE Edouard Asselin was re-elected chairman of the board of Quebec Natural Gas Corp. at the annual shareholders meeting last month.

Other officers are Col. Maurice Forget, president; Kenneth B. Lucas, executive vice-president and general manager; Paul F. Clarke, vice-president; and H. A. B. Stuffman, secretary and treasurer.

The board of directors includes Messrs. Asselin, Clarke and Lucas, Col. Forget, Albert Langevin, John K. McCausland, Leonard Milano, Horatio R. Milner, Joseph A. Page, Marcel Piche, Frank A. Schultz, and Guy Vanier.

Roth retires after 45 years with Cities Service Gas Co.



George C. Roth

GEORGE C. ROTH, director and vice-president of operations, Cities Service Gas Co., Oklahoma City, retired last month after 45 years with the company.

Mr. Roth joined the organization now known as Cities Service in 1913. He worked as expense ledger auditor; clerk in sales, pipeline, and gas transmission departments; and as chief clerk of the Kansas Natural Gas Co. until 1922. From 1922 to 1953, he was assistant to the superintendent of operations, supervisor of gas sales department, and assistant to operations manager for Cities Service Gas Co. He was named vice-president in 1953.

He also served as director and vice-president of Cities Service Gas Producing Co., a subsidiary.

Mr. Roth is a member of the American Gas Association, the National Association of Corrosion Engineers, and the Oklahoma City, Wichita and Kansas State Chambers of Commerce.

Jarden heads Maytag New York

GEORGE W. JARDEN has been named president of the Maytag New York Co., Inc. He succeeds Charles B. Mason, Jr., who retired Aug. 29. Maytag New York, which distributes Maytag appliances in New York City, Westchester County, Long Island and Fairfield County, Conn., is a wholly-owned subsidiary of the Maytag Co., Newton, Iowa.

Mr. Jarden has been vice-president and sales manager of Maytag New York since the distributorship was founded Nov. 10, 1955. Before that, starting in 1950, he had managed Maytag's Chicago branch.

Mr. Mason headed the New York subsidiary since its inception three years ago.

OBITUARY

C. Earl Lakin

64, vice-president in charge of gas operations of The Dayton Power and Light Co. died Aug. 23.

Mr. Lakin entered the utility industry 45 years ago as a meter reader for the Union City Electric Co., Union City, Ind. From 1932 to 1948, he was president and director of the Indiana and Ohio subsidiaries of the United Public Utilities Corp. and president of the Greenville Electric Co., one of the UPU properties.

When The Dayton Power and Light Co. purchased UPU's Ohio properties in 1948, Mr. Lakin was named DP&L's western division manager. Shortly thereafter he was brought to Dayton as vice-president in charge of the company's natural gas system. He supervised natural gas service for Dayton and 64 other communities of the Miami Valley, an area of more than 185,000 customers.

Prior to his service at Greenville and Dayton, Mr. Lakin was associated with the National Electric Power Co. and the Kansas Electric Power Co.

He was a Fellow of the American Institute of Electrical Engineers and a member of the Society of American Military Engineers.

Mr. Lakin is survived by his wife, Lola, a son, two brothers, and a sister.

Wilson J. Kite, Jr.

65, purchasing agent of chemicals and miscellaneous commodities for the plastics and coal chemicals division, Allied Chemical Corp., died Aug. 22.

Mr. Kite was a member of the American Gas Association, the Purchasing Agents Association of New York, and the Pennsylvania and Southeastern Gas Associations. He was also a Master in the Gild of Ancient Supplers.

Mr. Kite, who resided in Westfield, N. J., is survived by his wife, Marie, and a son.

B. B. Turner

manager of utility relations for the Maytag Co., Newton, Iowa, died on Aug. 25. He was 61 years old.

Mr. Turner was active in both the American Gas Association and the Gas Appliance Manufacturers Association, and was his company's delegate to GAMA. He joined Maytag as range sales manager in 1945 and was named manager of utility relations in September, 1957. Previously he was sales manager for 12 years for the Globe-American Corp., Kokomo, Ind.

Mr. Turner was a member of the United Brethren Church, the Sales Executives Club, the American Legion and the Elks. Survivors include his wife, Rose, and a son.

F. Warren Cooper

retired vice-president and controller of the Public Service Electric & Gas Co., died Aug. 16 after a long illness. He was 60.

Mr. Cooper joined Public Service in 1920 as an accountant. He became chief accountant in 1924, assistant general auditor in 1945, assistant controller in 1948, and controller in 1950. He retired on Aug. 16, 1957.

Mr. Cooper was a past chairman of the American Gas Association's Accounting Committee, and a member of the Controllers Institute of America, the Institute of Internal Auditors, the New Jersey Gas Association and the New Jersey Utilities Association. He had also served on the accounting and executive committees of the Edison Electric Institute.

A resident of Madison, N. J., Mr. Cooper was president of the Madison YMCA in 1941 and a director of the First Bank & Trust Co. of Madison.

Surviving are his wife, Bessie, two sons and a daughter.

Seaborn L. Digby

member of the Federal Power Commission from Aug. 17, 1953, until his retirement on June 22, 1958, died recently. He was 66.

During his term with the FPC, Commissioner Digby served twice as the group's vice-chairman for the calendar years of 1955 and 1956.

Mr. Digby received his Bachelor of Law degree from Louisiana State University and was admitted to the Louisiana Bar in 1916. He was appointed district attorney of the judicial district of Lincoln and Union Parishes in 1919, was elected judge of that district in 1922, served as Monroe City attorney from 1938 to 1948, and was Louisiana's Commissioner of Conservation from 1948 to 1952. He became a member of the Interstate Oil Compact Commission in 1948.

Mr. Digby is survived by his wife and a son.

George L. Cullen

68, retired commercial manager of Harrisburg gas division, The United Gas Improvement Co., died Aug. 24 from a heart condition. He had retired from the gas company on June 1, 1948.

Mr. Cullen was a past president of the Harrisburg Kiwanis Club, former director of the Harrisburg Chamber of Commerce, and a member of the American Gas Association, Pennsylvania State Chamber of Commerce, Engineers Society of Harrisburg, and Central YMCA. He was also a past secretary-treasurer of the Pennsylvania Gas Association.

He was employed in 1908 by the Philadelphia Gas Works, where he was in charge of gas appliance inspection and sales. He moved to Harrisburg in 1917.

L. C. Olpin retires from Mountain Fuel Supply Co.

L. CLYDE OLPIN, secretary, treasurer and director of Mountain Fuel Supply Co., has resigned these positions for reasons of health and has retired under the company's early retirement plan.

Mr. Olpin had been a director of the natural gas utility firm since 1940 and had been secretary and treasurer since March 1, 1951.

In 1923, Mr. Olpin was employed as an auditor by the Utah Gas and Coke Co., a firm which manufactured and distributed gas in the Salt Lake City area. He was made assistant treasurer in 1929. When Utah Gas and Coke Company and several other firms were merged and consolidated to form the present Mountain Fuel Supply Company in 1935, Mr. Olpin was named assistant secretary and treasurer.

Mr. Olpin is a member of the American Gas Association, the Pacific Coast Gas Association, the Board of Directors of United Fund, and Junior Achievement of Utah.

W. K. Grant retires from Columbia Gas System Service Corp.

WILLIAM K. GRANT, resident auditor for the Columbia Gas System Service Corp., has retired. He was with Columbia for more than 29 years, after having joined the corporation as a system auditor in 1929. In 1931, he was transferred to The Manufacturers Light and Heat Co., a Columbia subsidiary.

Mr. Grant was transferred to the Service Corporation office in New York in 1932, and moved to Columbus in 1933. During the next several years, he was assigned to write the corporate histories of Columbia-affiliated companies, including Manufacturers' Light and Heat, the United Fuel Gas Co., and The Ohio Fuel Gas Co. He served as a system auditor until 1951, when he was named resident auditor for the Service Corporation.

Mr. Grant holds a Certified Public Accountant certificate from the State of Pennsylvania.

Industrial Relations

(Continued from page 23)

interference with his lawful job, five weeks' loss of wages, and mental anguish. The jury saw it his way. Awarded him $10,000. Foul, screamed the union. It claimed the state court had no jurisdiction—the worker went to the wrong place. He should have gone to the NLRB. The matter finally reached the U.S. Supreme Court which ruled that the worker could take his choice —NLRB or state court—and confirmed the $10,000 judgment.

Lesson number two involved another union—this time in California. An employee was kicked out of the union. He could not get work because the union hiring hall was unavailable to him. He sued, also in a state court, for lost wages, damages, resulting from mental suffering, humiliation and distress, and asked for reinstatement. He won all three points.

Under California law, membership in a union constitutes a contract. The contract terms are the constitution and by-laws. This worker was ousted in violation of this union's constitution and by-laws.

The question in these cases is not state jurisdiction. It is whether damages can be awarded for lost wages and suffering. The state court ruled "yes" and was upheld by the U.S. Supreme Court.

Two franchises renewed

IN A SPECIAL ELECTION on Aug. 12, the voters of Davenport, Iowa, approved the request of Iowa-Illinois Gas and Electric Co. for a new 25-year gas franchise. The vote was 2,841 to 135, a margin of 21 to 1. On June 24, the citizens of Bettendorf, Iowa, which adjoins Davenport on the east, granted the same company a new 25-year electric franchise. This vote was 584 to 16, a margin of 36 to 1.

Air conditioning show

THE 14th International Heating & Air-Conditioning Exposition will be held in Convention Hall, Philadelphia, Jan. 26-29, under the auspices of the American Society of Heating & Air-Conditioning Engineers, in conjunction with the society's 65th annual meeting there. Space has already been engaged for some 450 exhibits, and late applicants face a diminishing choice of locations.

The exposition will combine displays of the various kinds of equipment required to compensate for the influence of the weather on industrial operations and human comfort. Comfort, efficiency in business, and industry's economy are closely related, and the machinery designed to counteract unfavorable weather is almost as diversified as is nature herself.

Some of the exhibitors make only parts, such as fan blades, belts, bearings, valves, switches, gauges, fittings or other distinctive items. Others produce pumps, compressors, burners, controls and other supplementary units or systems. The display roster mounts to hundreds of these specialties.

Admission to the exposition will be by invitation and registration only. The general public will not be admitted.

The International Exposition Co. will manage the exposition.

Newspaper honors Evans

THOMAS H. EVANS, vice-president of sales, Equitable Gas Co., Pittsburgh, Pa., was selected Personality of the Week during the summer by *The Pittsburgh Sun-Telegraph*. He was cited in an article for his civic activities among which is the Civic Light Opera, Inc., of which he is vice-president. A native of Pittsburgh, Mr. Evans is an active member of 10 civic organizations there. He also holds memberships and committee chairmanships in a number of national gas industry organizations.

CONVENTION CALENDAR

1958

DECEMBER

7-9 •Institute of Appliance Manufacturers, Statler-Hilton Hotel, Dallas, Texas.

16 •Rocky Mountain Gas Association, Annual Meeting, Denver, Colo.

1959

JANUARY

18-22 •National Association of Home Builders Convention and Exposition, Chicago, Ill. (A. G. A. will exhibit)

19-20 •Industrial Heating Equipment Association, Hotel Cleveland, Cleveland, Ohio.

26-30 •American Society of Heating and Air Conditioning Engineers, Annual Meeting and Exposition, Philadelphia, Pa.

29-31 •A. G. A. Home Service Workshop, Jung Hotel, New Orleans, La.

MARCH

2-4 •General Management Section Conference, Hotel Statler, Cleveland, Ohio.

9-11 •Mid-West Gas Association, Annual Meeting and Convention, Hotel Ft. Des Moines, Des Moines, Iowa.

19-20 •New England Gas Association, Annual Meeting, Hotel Statler, Boston, Mass.

26-27 •Oklahoma Utilities Association, Annual Convention, Mayo Hotel, Tulsa, Okla.

APRIL

1-3 •GAMA Annual Meeting, The American Hotel, Bal Harbour, Fla.

6-9 •Operating Section Distribution Conference, Netherland-Hilton Hotel, Cincinnati, Ohio.

7-9 •Sales Conference on Industrial and Commercial Gas, Hotel Warwick, Philadelphia, Pa.

15 •The Metropolitan Gas Heating & Air Conditioning Council, A. G. A. Headquarters, New York City.

20-22 •A. G. A.-EEI Accounting Section Conference of Electric & Gas Utility Accountants, Sherman Hotel, Chicago, Ill.

23-24 •Indiana Gas Association, French Lick-Sheraton Hotel, French Lick, Ind.

27-29 •Southern Gas Association, Annual Convention, New Orleans, La.

Personnel service

SERVICES OFFERED

Manager—20 years' experience in managing and operating utility properties. Interested in affiliating with a natural gas company. Good public and employee relations man. College graduate, married, two children. Details upon request. **1926.**

Sales Engineer—individual with 25 years' supervisory experience with major gas company desires sales or operational position with gas company or company associated with gas industry. Outstanding record in gas air conditioning, gas utilization, measurement, odorization and general operations. **1928.**

Manager or Superintendent—12 years' broad practical background in management of medium sized natural gas property. Experience includes direction of: construction, maintenance, sales, customer service work, measurement, regulation, utilization, and related office administration. Desires permanent position with company requiring above experience. Can competently manage medium sized property or head department in large company. Will relocate. Married, age 34. **1929.**

Manufacturer and Utility Company Sales Representative—associated over a year as representative for a water heater manufacturer. Successful obtaining dealer acceptance. Familiar with dealer promotion plans of various utilities. Nine years' sales experience with leading gas utility. Thoroughly experienced in preparing heat loss surveys and selling gas heat. Assisted in supervising a successful sales incentive program for company employees. Married, veteran, details upon request. **1930.**

Market Research Director—Eight years' experience in sales analysis, sales control and market studies. BS in business administration and MBA in Market Research. Married, children, age 34. **1931.**

Young Executive—BS, MA, PhD in Industrial Management seeks responsible position in industrial relations. College teacher for 7 years, management consultant and arbitrator for 7 years, and management consultant and arbitrator for 4 years. Have handled profit-sharing plans, job evaluation, morale studies, managerial development program, and some contract negotiation. Current salary, $8,000. Detailed resume on request. **1932.**

Project Field Engineer—extensive experience manufactured and LP-Gas, catalytic cracking, industrial furnaces, incineration, instrumentation, supervision of plant operations and maintenance. Resume upon request. **1933.**

Administrative-Executive Accountant—experience includes auditor of large combination utility, consultant with management and consulting firm, secretary-treasurer of gas company. Top references, including former employers. Available now. **1934.**

Management Executive—versatile management experience in industry and government including complete responsibility for major segments of large organizations, advising senior executives, formulation of policy, planning, selling, public relations, public speaking, employee training, personnel management and economical maintenance of equipment. **1935.**

Accounting Executive—over 27 years' experience in all phases of utility accounting (9 years in holding company office, 18 years on operating utility properties). Last 16 years treasurer, secretary and director of gas distributee company, last 5 years of which also treasurer and secretary of interstate gas pipeline company. Detailed resume on request. Age 48. **1936.**

Manager Controller System Analyst—25 years utility experience all phases and departments. Heavy Operation and System, accounting, clerical, field, all machines (including IBM punched card and EDPM). General Accounting, Stores, Payroll, Purchasing, Payables, CPR, Service Records and Orders, Construction, Work Orders, Post Card Billing, Consumption Analyses, Mechanical Cash Posting, etc. Procedures, flow charts, form design, wiring, scheduling and instruction. Public Accounting and Consulting experience. BS Accounting—age 46—married—1 child. **1937.**

Manager of Utility Sales—twelve years uninterrupted association with top line of major appliances widely merchandised by utilities. Excellent and long established contacts at management levels with all major merchandising utilities in New England, New York, New Jersey, Pennsylvania, Delaware and Maryland. Thoroughly familiar with utility merchandising policies. Outstanding record in sales, sales training and merchandising. Married. Graduate of leading eastern university. Will relocate. **1938.**

Sales Manager—strong utility background, basically trained in residential sales of both gas and electrical appliances. Twenty years experience with top name appliance manufacturers. Product specialist, district, and regional sales manager. Traveled entire Eastern U.S., supervising and developing distributors, and dealers. Good dealer coordinator, field merchandising man, highly promotional, with good contacts. Immediately available. Salary open. **1939.**

Sales Executive—experienced in year round heating and cooling. Heating background from domestic installations to high pressure steam plants. Air conditioning from window units to centrifical installations including central station, low temperature refrigeration and ammonia design and survey. Twenty-five years in industry. Formerly product sales manager, heating and cooling, for leading air conditioning manufacturer. Resumé if desired. **1940.**

Management—the health of our only child requires a change of climate. Above average managerial abilities and experience. Broad experience in natural gas and combination companies. Not immediately available. Age 41. **1941.**

POSITIONS OPEN

Gas Property Manager—nationwide company has opening in New England for progressive sales minded manager for manufactured and bottled gas utility serving a community of approximately 35,000. Submit complete resume of experience. **0872.**

Industrial Gas Engineer—a fine opportunity for an ambitious young engineer in a fast growing eastern gas utility. Salary in line with education and experience. Expenses and company car furnished. In reply please state experience, education and age. **0873.**

Manager-Gas Property—Pennsylvania and Maryland utility with division offices in Maryland and Pennsylvania has opening for a progressive manager. Experience in operation, distribution and selling preferred. Please state age, education and other background information when replying. **0874.**

Gas Engineer—to call on gas distribution companies in a sales capacity. After training at the plant considerable travel would be required. The man selected will be afforded an excellent opportunity to become a key man in a well established business. Salary would be commensurate with ability. Age range 25-35. Reply stating education, experience and personal background. **0875.**

Industrial Gas Sales Engineer—growth utility in midwest has opening in industrial sales for graduate engineer under 40 with two or more years of gas sales or comparable customer contact experience. Excellent opportunity for advancement. When replying, include small photograph along with age, education, other background information, and salary desired. **0876.**

Ohio chefs at state-wide seminar learn reasons for cooking with gas

THE "STUDENT" ROSTER read like a "Who's Who of Ohio Cookery" when 30 chefs from that state's best known restaurants recently attended the first in a series of production schools at the new Veterans Memorial building in Columbus.

Sponsored by the Ohio State Restaurant Association and Ohio State University, the five-day event gave the chefs an opportunity to learn about the superiority of natural gas as a fuel in large-volume cooking.

All-gas equipment, including a combination steamer and steam kettle, stainless steel Garland gas range with 10 top burners, and a two-deck Blodgett gas oven, was provided through the efforts of Thomas Z. Dunn, manager of commercial sales for The Ohio Fuel Gas Co.

The gas equipment was used exclusively in all demonstrations, which covered such topics as basic elements of cookery, preparation and techniques of roasting, proper boiling techniques, selection and cookery of poultry, vegetable cookery and portion control, and hot restaurant breads.

The program was conducted by LeVelle Wood, associate professor and chairman, division of institution management, School of Home Economics, Ohio State University. Miss Wood was assisted by experts in each subject, including Mrs. Katheryn Ashcraft, home service department field supervisor for Ohio Fuel; Robert E. Smith, the Restaurant Association's management consultant; and Ray Watts, state sanitarian, Ohio Department of Health.

Paper reviewing natural gas supply available from New York firm

REPRINTS of an article entitled "The Supply of Natural Gas: A Review" are available upon request from the firm of Boni, Watkins, Jason & Co., 37 Wall Street, New York 5, N. Y.

This management and economic consulting firm describes the behavior of proved natural gas reserves in the recent past, production and growth rate, and gives estimates of future demand and implications for supply, and cost and value of discoveries.

The paper points out that declining drilling rates in the petroleum industry in 1957 and 1958, attributed primarily to the current oversupply of oil, are of equal importance to those interested in the present and prospective adequacy of natural gas reserves. Consequently, the paper states, it becomes important to assess the trends in gas production and reserves, in order to see to what extent they justify concern about future supply.

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